

4-H CLUB

LIGHT HORSE PROJECT
Leaders Guide

AGRICULTURAL EXTENSION

UNIVERSITY OF CALIFORNIA

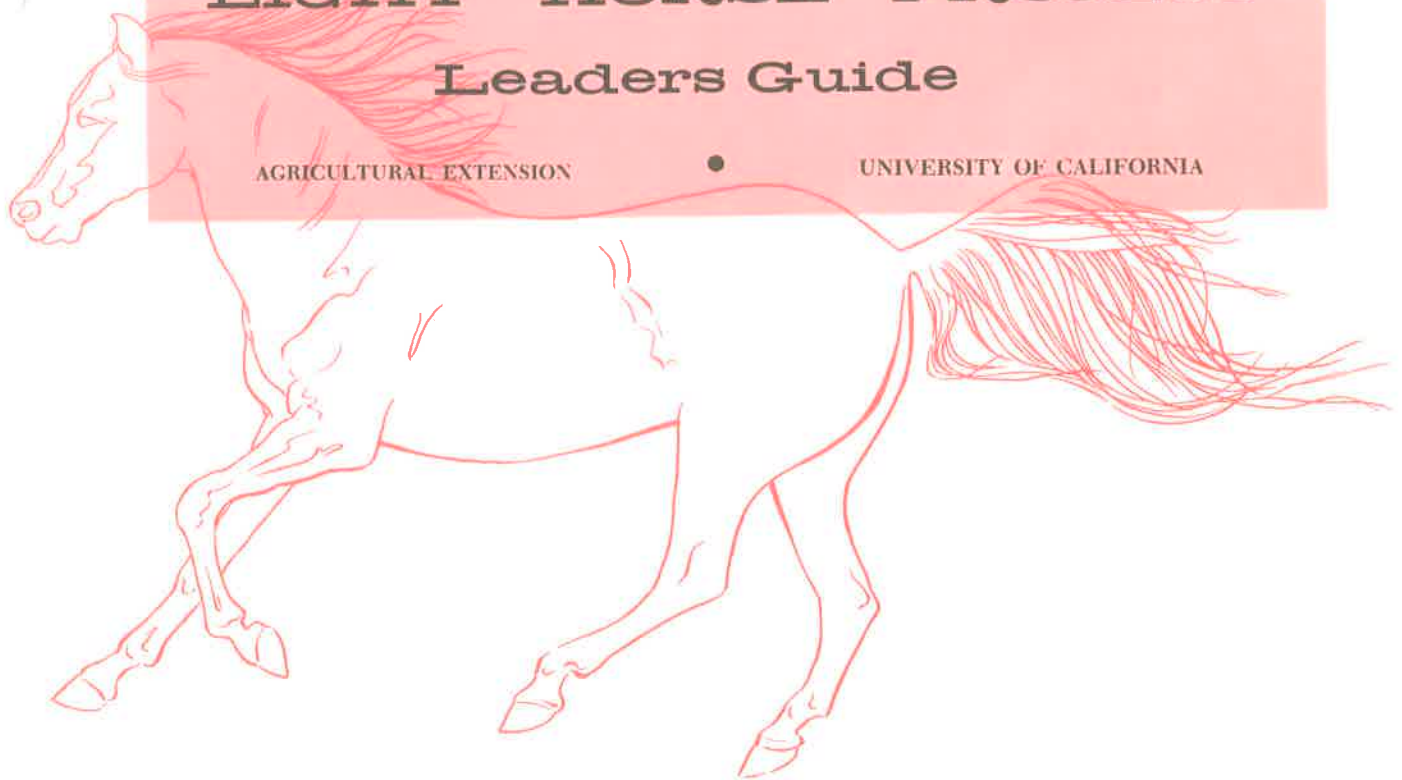


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OBJECTIVES

The purpose of the light horse program is to help 4-H boys and girls:

- Develop leadership, initiative, self-reliance, sportsmanship, and other desirable traits of character.
- Experience the pride and responsibility of owning a horse or pony and receive training in its care, feeding, management and related costs.
- Appreciate horseback riding as healthy and wholesome recreation.
- Acquire skill, patience, and understanding in handling horses.
- Learn safety precautions to prevent injuries to self, others, and animals.
- Develop a love for animals and a humane attitude toward them.
- Prepare for citizenship responsibilities by working together and by supporting community projects and activities.
- Learn to teach approved practices by demonstration.

THE LIGHT HORSE PROJECT

There are two units in the Light Horse Project. Members may enroll in one or both of these:

HORSE UNIT. (This includes all horses beyond weaning age that are not in the breeding unit.) In this unit the 4-H Club member should learn about horses and how to handle horses. Also, at the leader's discretion, the member may learn how to train horses. Members will learn safety around horses; parts of the horse; feeding the horse; keeping the horse healthy; grooming; care of the feet; handling the horse; use and care of equipment; body colors, color patterns, and body markings; selection, conformation, and judging; fitting and showmanship; and origin of breeds, characteristics and use of breeds.

Members with colts and fillies at weaning age will learn halter breaking, tying, and handling the young animals in addition to feeding, care, and safety. A 4-H Club leader who is an experienced horseman must supervise the training of these young horses. There is no requirement for registration or conformation in the Horse Unit, but horses sired by a registered stallion are eligible to enter halter classes at fairs where premiums are paid from the "Master Premium List." Thus, it is desirable, where possible, to secure the registration number of the sire. Also, we strongly recommend that eligible colts and fillies be registered as soon as possible.

In advanced years, the members can learn such additional skills as their 4-H Light Horse Project leaders wish and have time to teach. These may include trail riding, English riding, riding gaited horses, jumping, drill and parade riding, roping, cutting, reining, judging and showing, and light driving.

BREEDING UNIT. The member will learn safety with his horse; feeding, care, and management; and judging. Mares used in this project should be well bred (purebred preferred) and of desirable conformation. The mare must be bred to a registered stallion. If the stallion is kept for breeding (stallions come under the Breeding Unit), he must be registered. Both breeding animals should be serviceably sound.

PROJECT SUPERVISION

SELECTING THE HORSE

Young boys or girls should not select horses that are untrained or difficult to handle. Older, well-trained horses with good dispositions are safer for beginners. More experienced members may want to start with a young horse and develop and train their own mount.

The club member who has pasture and other feed available may wish to have a mare and raise foals. This type of project may provide a monetary return and experience in training young horses to sell. In selecting a brood mare, choose a breed in demand locally.

Consider these points when selecting the mount:

- The club member's age, weight, degree of experience and skill.
- Facilities available for keeping the horse.
- Price the purchaser can afford.
- Individual preference in breed and type.
- Plans for using the horse.

Good saddle horses are found in all light breeds. The most popular breeds include the Thoroughbred, Quarter Horse, Arab, Morgan, Standardbred, American Saddle Horse, Tennessee Walking Horse, Palomino, and Appaloosa. It is not necessary to buy a purebred horse to benefit from the 4-H Light Horse Project. A sound, well-mannered, healthy horse of good conformation is preferred, regardless of breeding.

CARE, FEEDING, AND MANAGEMENT

Ownership and management are characteristic of all 4-H projects. In the 4-H Light Horse Project, ownership of the horse is necessary; however, a longtime lease will satisfy the ownership requirement. Ownership carries with it the responsibility for the health and well-being of the animal. An essential part of the club member's training is the early development of regular habits in the feeding and care of his mount. Beginners, in particular, usually will be inexperienced in this. Leaders can help the boys and girls to a good start by visiting them as soon as possible after the projects have begun.

This checklist covers some of the more important principles of good horse husbandry:

SHELTER AND PREMISES	YES	NO
Is stable well lighted, ventilated, and free from drafts?	_____	_____
Is stall large enough? (Box stalls should be at least 10 by 10 feet, and tie stalls 4½ to 5 feet wide and 8 to 9 feet long, depending on the size of the horse.)	_____	_____
Do ceilings provide at least 8 feet head room?	_____	_____
If open shelter is provided, is it orientated to keep out the rain?	_____	_____
Does the horse have regular access to paddock or pasture with a good fence?	_____	_____
Are stall and corral or paddock free from loose or protruding boards, nails, sharp stones, and other objects that can injure the horse?	_____	_____

FEED AND WATER

YES NO

- | | | |
|---|-------|-------|
| Does member have a regular daily feeding time? | _____ | _____ |
| Does condition of animal and manure indicate proper balance of feed (free of unthrifty hair and scours)? | _____ | _____ |
| Is grain free from mold and stored in a dry, clean place? | _____ | _____ |
| Is the door to the feed storage room fastened securely so that the horse won't break in and overeat? (padlock, snaps, etc.) | _____ | _____ |
| Is hay of good quality and free from mold? | _____ | _____ |
| Are feedboxes and hayracks set at convenient heights for the horse (approximately 36 inches)? | _____ | _____ |
| Does the horse clean up his grain readily within half an hour? | _____ | _____ |
| Does the horse have access to green grass during the available season? | _____ | _____ |
| Is clean, fresh water available regularly? | _____ | _____ |
| Is salt provided? | _____ | _____ |

CARE OF HORSE

- | | | |
|--|-------|-------|
| Does condition of hair indicate regular grooming (free from dirt and manure)? | _____ | _____ |
| Does the member have adequate grooming equipment (currycomb, dandy brush, body brush, hoof pick, sponge, cloths)? | _____ | _____ |
| Are first aid materials adequate for treating cuts and injuries, and kept in a convenient place? (Consult with veterinarian.) | _____ | _____ |
| Are the feet cleaned regularly? | _____ | _____ |
| If the horse is shod, are shoes in good condition and properly fitted? Are feet and pasterns healthy? Are walls of the hoof free from cracks and properly trimmed? | _____ | _____ |
| Is the horse free from lice, mange, ringworm, and other skin disorders? | _____ | _____ |
| Does the horse show any signs of a heavy internal parasite infestation (poor condition, rough hair, and scours)? | _____ | _____ |
| Is there any indication of sore back or mouth? | _____ | _____ |
| Does the club member understand the proper care of his horse before and after riding? | _____ | _____ |

CARE OF RIDING EQUIPMENT

- | | | |
|---|-------|-------|
| Does the member have adequate material, such as saddle soap, neat's-foot oil, sponge, and cloths, for cleaning and maintaining equipment? | _____ | _____ |
| Is leather cleaned regularly and kept in good condition? | _____ | _____ |
| Are metal parts free from corrosion? | _____ | _____ |
| Is blanket and/or saddle pad clean and dry? | _____ | _____ |
| Is equipment properly adjusted, free from worn parts, and hung up in a dry place? | _____ | _____ |

KEEPING RECORDS

Keeping accurate and complete records is important in the overall development of the 4-H Club member. Keeping records stimulates members to analyze results and strive for self-improvement and provides training which will help them later in life. Records submitted by 4-H members provide information necessary in selecting individuals to receive recognition and awards such as scholarships and educational trips.

Record keeping is easier for some than for others. Guidance and encouragement from the leader and parents will help boys and girls take pride in keeping accurate and neat records that truly reflect their 4-H Club accomplishments.

The farm advisor will acquaint leaders with the types of records used for the 4-H Horse Project. He will provide them as needed.

TEACHING SUGGESTIONS

As a 4-H Club leader you are a teacher of boys and girls. The teacher strives to hold his pupils' interest and gain their cooperation. One effective way to do this is to vary your presentation of the subject as often as practical. A 4-H leader can vary widely his approach to teaching horse husbandry and horsemanship; lectures, blackboard talks, movies, slides, demonstrations, judging contests, practice sessions, quiz contests, discussion periods, tours, and trail rides all contribute to the learning process. Older, experienced 4-H Club members and other horsemen can help with the teaching. Plan to hold project meetings at regular times and be sure that all the people concerned with the project meeting know the time and place as well as their duties. See page 9 for list of helpful publications and visual aids.

The University of California Agricultural Extension Service furnishes 4-H Club literature. The club may purchase other teaching materials, including books for the club's library.

SUCCESSFUL TEACHING METHODS

To be successful, any teaching method must hold the interest of the pupils. You can keep members interested if you will:

- Prepare for each meeting.
- Be sure that the members learn something at each meeting.
- Have full cooperation of the parents; keep them informed.
- Not be discouraged when the members do not study or practice as much as you think they should.
- Offer something both worthwhile and interesting to hold their interest against the competition of other activities.

Here are some suggestions to help you be a more effective teacher:

Divide the material to be covered during the year into the number of meetings to be held.

Let the members know what will be discussed at each meeting so that they can study in advance and come prepared to take part in the discussion.

Re-examine a topic discussed at an indoor meeting at the next field meeting, and have the members demonstrate their knowledge.

After covering a topic at an indoor session and at a field session, follow it up with a discussion at the next session. Keep the questions simple, if possible, and base all questions directly on the Members Manual.

AIDS TO INSTRUCTION

- Have your group attend horse shows as spectators. Let them try to pick the winners and explain their choices. Let them criticize the riders and give reasons.
- Have specialists talk to the group, such as a veterinarian, saddlemaker, horseshoer, horse show judge, etc.
- Visit and let the members talk with horse raisers and trainers. Let them see examples of good breeding and good stable management.
- Plan project tours.

SUBJECT MATTER SUGGESTIONS FOR CLUB MEETINGS

Since half the instruction time may be spent indoors, it is important to plan the subject matter to be covered. The "Member's Skills and Knowledge Report" for the appropriate unit can serve as a guide for material to be covered. Some subjects to teach indoors are:

Breeds of horses and their uses	Safety precautions
Parts of a horse	First aid
Parts of riding horse equipment	Horse health
Care of equipment	Riding courtesies
Feeds and feeding	Record keeping
Horse psychology	Principles of judging
Unsoundness, blemishes, and their locations	
Making an adjustable rope halter for leading and showing	
Riding horse gaits (movie or blackboard talk)	
Horse show classifications and rules	

DEMONSTRATIONS

A demonstration (formal or informal) is teaching by doing. The demonstration method is effective particularly in teaching horsemanship. Much of the subject matter in this program can be taught only by demonstration followed by supervised practice sessions. The instructor who skillfully conducts demonstrations gains the confidence of his pupils quickly.

As the club members master each phase of their training, wise leaders let them conduct demonstrations themselves. This way, the member develops poise, initiative, and the ability to teach. He also can assist the leader in training less experienced members. Some subjects are adaptable for use as demonstrations in county meetings.

Here are some suggested demonstrations:

- Approaching, haltering, and leading a horse
- Saddling, bridling, and adjustment of stirrups
- Mounting and dismounting, proper seat and posture of rider
- Use of aids in controlling the horse -- voice, hands, legs, position of body
- The different gaits and their influence on posture of rider
- Teaching a colt to lead
- Picking up and cleaning the horse's feet
- Hoof trimming
- Proper shoeing of the horse
- The longe line and its use
- Showing at the halter
- Clipping and grooming
- Braiding mane, foretop, and tail
- Care of equipment
- Repairing equipment, sewing, and riveting
- Determining age by the horse's teeth
- Detecting unsoundness and blemishes
- Safe loading, hauling, and unloading of horses

SPECIAL ACTIVITIES

Special activities stimulate and hold the interest of club members. They are effective teaching tools; they provide opportunities for 4-H'ers to gain self-confidence and develop good sportsmanship by working and playing with others. To develop leadership, urge members to participate in planning and executing programs. Many interesting, varied activities are possible in the horse program.

Here are some suggestions:

TRAIL AND CROSS-COUNTRY RIDES break the pattern of instruction periods. With a competent leader, 4-H'ers practice safety and road courtesy and learn to adjust equipment properly. They learn consideration for their mounts.

OVERNIGHT CAMPING AND FIELD TRIPS on horseback to unspoiled natural areas suitable for outdoor camping are popular group activities. Members learn to take care of themselves and their mounts in the field. Here are some suggestions for such trips:

- You should be familiar with the route; know the spots where storm shelter is available. Visit the campsite in advance to insure that feed, water, and sanitary facilities will be available.
- Members should be familiar with camping techniques and precautions before making the trip.
- Parents should assume responsibility for the conduct of the members and any accidents that may occur. It is too much to ask a leader or farm advisor to assume such responsibility.
- Check horses, equipment, food, clothing, and first aid kits before starting. Prepare a checklist of minimum camping supplies for health and comfort.
- Be certain that every horse has hobbles or is broken to tie to a tree or picket line if fence pastures or paddocks are not available at overnight stops.
- Have all necessary permits (fire) or licenses needed.
- Check each stopping point before leaving to be sure the area has been policed, fires are out, and no personal property is left behind.
- Periodically check horses for loose shoes and injuries, and riding equipment for adjustment.
- Club members may keep a record of the cost of the trip.

TOURS help members see how others do things.

On project tours, the group visits all of the members' projects and compares the work. Members may check the management practices of their fellow members and give them a rating score. Each member is more likely to keep his project and record book in tiptop shape if he knows he may have visitors.

Other tours might include trips to horse breeding farms and ranches, horse shows and fairs, rodeos, and experiment stations.

Members can get more out of the tours if they take notes on what they see, use cameras, and discuss afterward what they have learned.

MOUNTED PATROLS organized as a team may practice exhibition mounted drill movements to maintain interest and improve members' horsemanship.

LEATHERCRAFT is an interesting and useful project for the winter months when outdoor activities are limited. It is a skill that horse project members can use to advantage.

4-H HORSE SHOWS are an excellent way to develop sportsmanship. They help stimulate and maintain the member's interest in the project. They show the general public what is being accomplished in a 4-H Club.

Any 4-H Club planning to participate in or hold a horse show should obtain a copy of "The American Horse Shows Association Rule Book" and use this as their guide. This is the guide suggested in the "Master Premium List." County and district fair horse shows that use premium monies provided by the "Master Premium List" also use the rules of the American Horse Shows Association.

SKILLS OR FIELD DAY can serve three very important purposes. First, all horse project members have an opportunity to meet and to demonstrate what they have learned during the year. Second, the leader may evaluate the progress of the individual member. And, third, a leader can judge how effectively he has taught the subject matter.

At a field or skills day, each member demonstrates individually "the things I learned to do" and "the things I taught my horse" as listed on the skills and knowledge report of the project unit in which he is enrolled. For example, you might ask a first-year member in the Horse Unit to lead, groom, saddle, bridle, and mount his horse. He might walk, jog, and lope his horse both ways of the ring. Members are graded on each of these items individually.

If time permits, each member may be examined on "the things I learned about." This could include true and false or multiple choice questions. Limit material to that covered during the project meetings.

GAMES FOR RIDERS

MUSICAL CHAIRS. Chairs, one less than riders, are placed in the ring facing outward. Contestants ride in circle outside the ring of chairs. Music or whistle is used for signals. When music stops or whistle blows, contestants dismount and attempt to sit in the chairs, retaining hold of the horses' reins. A contestant left without a chair is eliminated, and one chair removed. This is repeated until one chair remains. Winner is last contestant seated.

RELAY RACES. There are many variations of this event. Contestants are divided into teams. Any number can be used on a team provided it is a multiple of two. Each team is divided in half, with one-half at each end of a course 50 yards long. The first rider is handed an object, gallops across the course and hands the object to the next team member, who returns to the original point and gives it to the third, and so on. Teams are timed to select winner.

POTATO RACE. Each contestant spears a potato, rides 50 yards, puts it into a bucket, and returns. This is repeated until five potatoes are in the bucket. Many variations are possible; for instance, you may substitute an egg in a spoon, or glass of water.

SUITCASE RACE. Each rider receives a light suitcase with a shirt enclosed, gallops 50 yards, dismounts, opens the suitcase, puts on and buttons shirt, mounts, and returns to starting point.

CAKE-EATING RACE. A piece of cake for each contestant is suspended on a string at far end of course. Riders gallop 50 yards, eat cake off string, and return. Touching cake with hands disqualifies contestant.

STAKE RACE. A line of stakes is driven in the ground for each contestant. Drive them in just far enough in so they won't fall over. Three-foot smooth stakes (without splinters) about broom-handle size are ideal. The contestant rides to farthest stake, pulls it up without dismounting, carries it back to starting point, drops it in a box, and repeats until all stakes are in the box.

MOUNTED SQUARE DANCE. Participants are divided into couples. Music can be provided by a record player and amplifier. A caller directs the riders through square dance movements on horseback.

Suggested References

UNITED STATES DEPARTMENT OF AGRICULTURE PUBLICATIONS

1956 Yearbook of Agriculture, Animal Diseases. (For sale only from Government Printing Office, Washington, D.C.)

Light Horses, Farmers Bulletin F-2127. (Free in single copies from Agricultural Extension Service Office.)

OTHER SOURCES

Safe in the Saddle, leaflet by Harold Heldreth, National Safety Council, 425 North Michigan Avenue, Chicago, Illinois.

4-H Light Horses, Iowa Horse and Mule Association, Des Moines, Iowa.

SUPPLEMENTAL REFERENCE BOOKS FOR LEADERS

Horses and Horsemanship, M. E. Ensminger, 1956, Interstate Publishers, 19-27 North Jackson Street, Danville, Illinois.

Your Horse: His Selection, Stable and Care, George W. Saunders, 1954, D. Von Nostrand Co., 120 Alexander Street, Princeton, New Jersey.

The Practical Horse Keeper, George H. Conn, 1950, Orange Judd Publishing Co., 15 East 26th Street, New York 10, New York.

A Manual for Riders, L. W. Durrell, 1949, Crown Publishers, 419 Fourth Avenue, New York 16, New York.

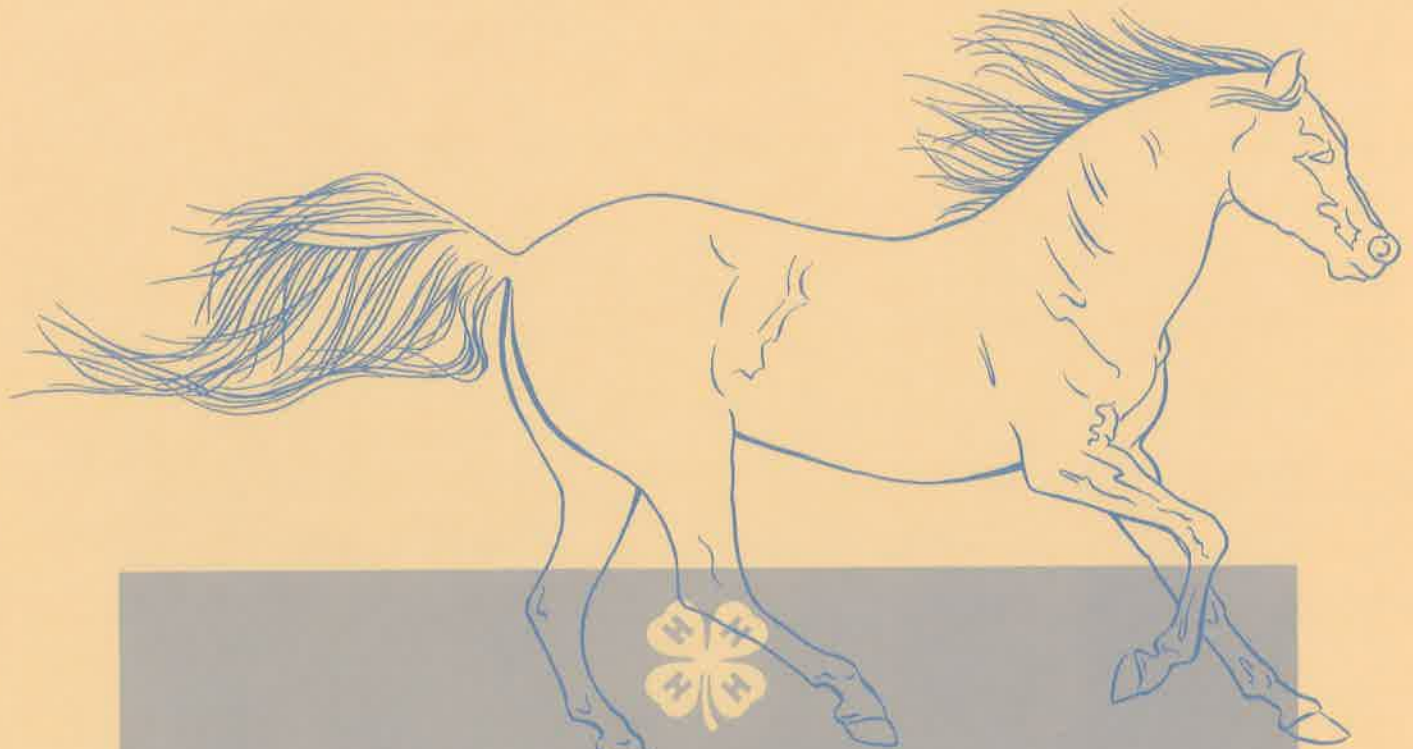
The Western Horse — Its Types and Training, John A. Gorman, 1949, Interstate Publishers, 19-27 North Jackson Street, Danville, Illinois.

Better Riding, Benjamin Lewis, 1949, Grosset and Dunlap, Inc., 1107 Broadway, New York 10, New York.

The Mounted Drill Team, John M. Henry, 1954, A. S. Barnes & Co., 232 Madison Avenue, New York 16, New York.

The Schooling of the Western Horse, John Richard Young, 1954, Revised 1959 by University of Oklahoma Press, Norman, Oklahoma.

The Cavalry Manual of Horsemanship and Horsemastership, edited by Gordon Wright, 1962, Doubleday Publishing Company, Garden City, New York.



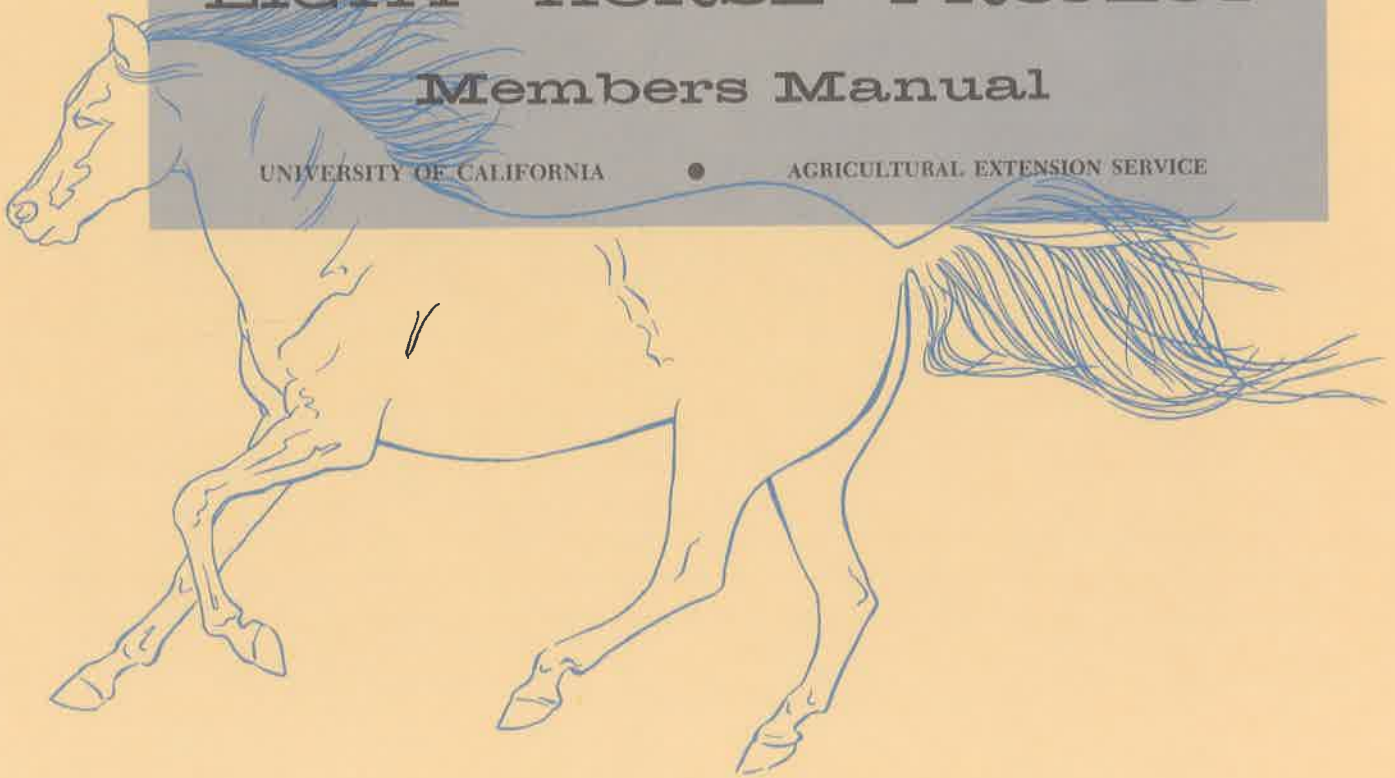
4-H CLUB

LIGHT HORSE PROJECT

Members Manual

UNIVERSITY OF CALIFORNIA

● AGRICULTURAL EXTENSION SERVICE



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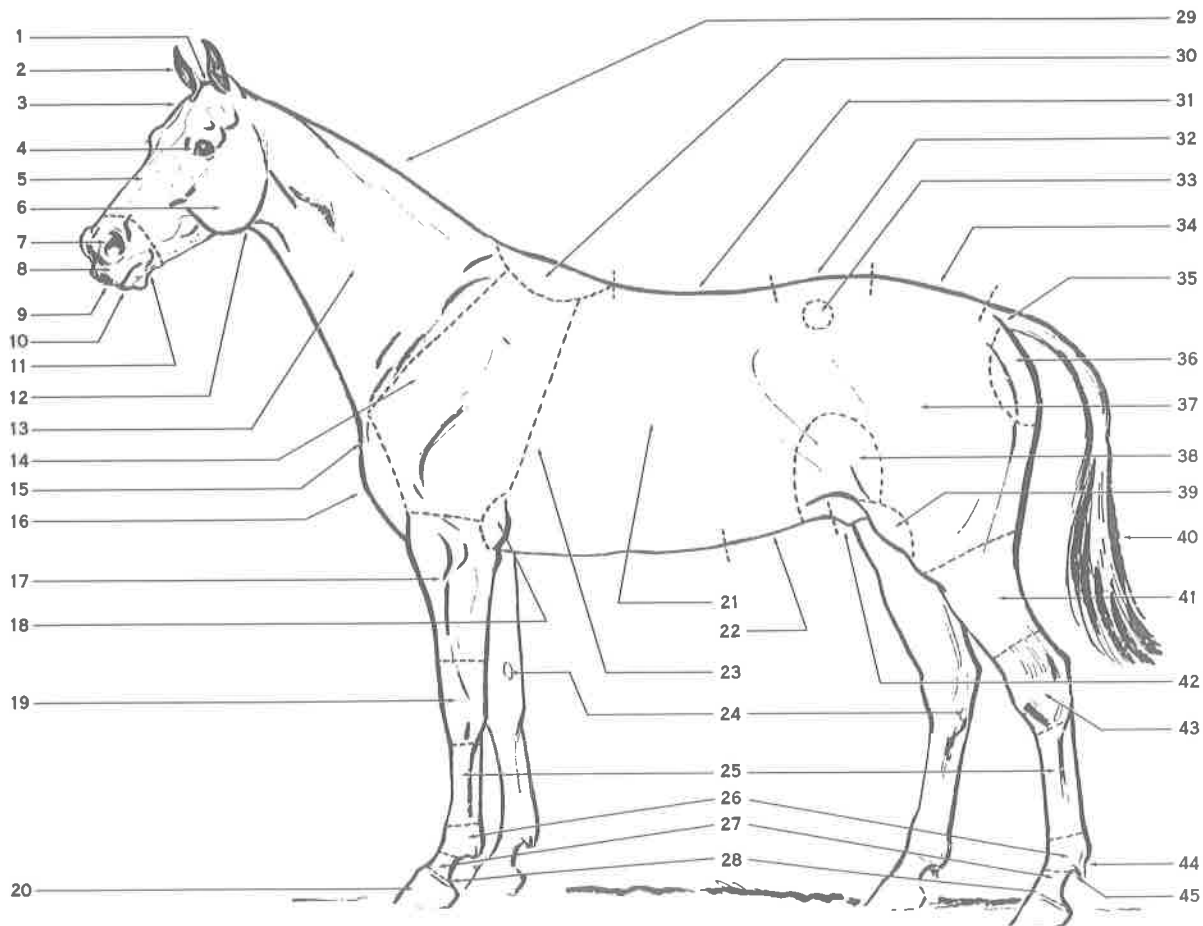
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THE COMMITTEE ACKNOWLEDGES THE ASSISTANCE OF:

Gordon Wright, author of **Learning to Ride, Hunt, and Show**
The Jockey Club, New York City

LEARNING THE PARTS OF THE HORSE



1. POLL
2. EAR
3. FOREHEAD
4. EYE
5. FACE
6. CHEEK
7. NOSTRIL
8. MUZZLE
9. UPPER LIP
10. LOWER LIP
11. CHIN GROOVE
12. THROAT LATCH
13. NECK
14. SHOULDER
15. POINT OF SHOULDER

16. CHEST
17. FOREARM
18. ELBOW
19. KNEE
20. HOOF
21. BARREL
22. ABDOMEN
23. HEART GIRTH
24. CHESTNUT
25. CANNON
26. FETLOCK JOINT
27. PASTERN
28. CORONET
29. CREST
30. WITHERS

31. BACK
32. LOIN
33. POINT OF HIP
34. RUMP OR CROUP
35. DOCK
36. BUTTOCK
37. THIGH
38. FLANK
39. STIFLE
40. TAIL
41. GASKIN OR SECOND THIGH
42. SHEATH
43. HOCK
44. FETLOCK
45. ERGOT

FEEDING YOUR HORSE

The amount and type of feed your horse requires will vary according to his weight and how you use and manage him. A successful feeding practice provides the basic feed requirements for body maintenance, growth, and reproduction.

The first and important use of feed is for body maintenance. Additional nutrients are needed for growth, work, gestation, milk production, and laying on body fat. Young animals need protein for building muscles, bones, hair, and hooves. Mature horses need less protein until pregnancy and lactation increase their needs.

Don't overlook water in your horse's diet. Water is necessary to all life processes. It carries nutrients and regulates body temperature. An animal can survive much longer without feed than he can without water. Always have fresh, clean, cool water available, except when a horse is hot from work. Permit a warm horse only a light drink to refresh him.

With proper supplements, most feeds useful to farm animals make satisfactory horse feeds after the horse becomes accustomed to their odor and taste. Horses digest some types of feeds more easily than other types. Roughages (hay and pasture) are high in fiber and relatively low in digestible nutrients (50 per cent). Concentrates (grain) are low in fiber and high in digestible nutrients (about 75 per cent).

DAILY FEED REQUIREMENTS

Feeding for Maintenance

TDN. The nutrients required to maintain your horse vary with his weight and his work. The daily requirement per 1,000 pounds liveweight for an idle horse is 6.8 pounds of total digestible nutrients (TDN). This is approximately equal to 14 pounds of good quality hay per day.

One pound of grain per day can replace about 1.5 pounds of hay.

Protein. Good quality pasture, or as little as 6 pounds of good quality alfalfa hay per day, supply the protein requirement of an idle 1,000-pound horse.

Vitamins. Green pasture, or 3 to 5 pounds of good quality green hay per day, usually will meet maintenance requirements of 1.5 milligrams of carotene per 100 pounds of body weight. This is equal to about 900 international units (I.U.) of vitamin A. Pregnant and lactating (nursing) mares require much more vitamin A.

Minerals. Fifteen grams per day of calcium and phosphorus are required to maintain a 1,000-pound horse. Working horses and pregnant and lactating mares need more. Give them equal amounts of calcium and phosphorus. Provide salt free-choice, particularly when animals are sweating heavily. A trace mineral salt will supply other minerals needed unless there is an unusual deficiency.

Feeding Working Horses, Pregnant and Lactating Mares

Your horse needs more food for energy when his work is increased. However, he will not need more protein than is required for maintenance, so the food supplied for energy will give him an ample amount of protein.

The pregnant mare requires nutrients for maintenance, development of the fetus, increased body heat during gestation, and for any work she performs. A nursing (lactating) mare may produce 3 to 4 gallons of milk (25 to 30 pounds) per day. Milk production requires additional nutrients for protein and for energy. Also, a lactating mare requires two to three times her maintenance requirement of vitamin A and calcium-phosphorus.

TABLE 1. Pounds of Feed Required Daily for Light Horses

Work or Condition of Horse	Body Weight	Total Feed	
		Legume Pasture or Hay ¹	Grain
Idle Horse (maintenance) ²	800	12	0
	1,000	14	0
	1,200	16	0
Light Work 1 to 3 hr/day	800	12	3
	1,000	14	4
	1,200	16	5
Medium Work 3-5 hr/day	800	14	4
	1,000	16	5
	1,200	18	6
Heavy Work 5-8 hr/day	800	11	10
	1,000	15	11
	1,200	15	12
Pregnant Mare — last quarter	800	14	2.5
	1,000	14	3.0
	1,200	16	5.5
Lactating Mare 4 gal/day	800	15	8
	1,000	15	9
	1,200	18	10

¹ Pasture or legume hay recommended—if other than legume hay is used, include a protein-rich feed, such as linseed oil meal, in the concentrate ration.

² National Research Council says that a maintenance ration provides nutrients for up to 1 hour work per day.

Feeding the Growing Foal

The growing foal may gain one-half of his adult weight in one-fourth the time (12 months) it takes him to reach maturity. A well-balanced ration and adequate nutrition are particularly important during this stage of development. You may supplement the diet of the nursing foal with a taste of concentrate mix when he is 3 to 4 weeks old. Gradually increase this amount to ½ to ¾ pound concentrate per 100 pounds of body weight. You can control the amount and kind of feed the foal receives with a creep feeder. This enclosure has a feed opening just big enough to admit the foal. A satisfactory

creep ration may be a combination of oats, wheat bran, and protein meal.

After weaning, increase the amount of a ration that is palatable, high in digestibility, proteins, and minerals, and low in fiber. Total daily feed intake should be 2.5 to 3 pounds per 100 pounds of body weight.

The colt is still growing during his second year, and he should have good quality legume pasture and some concentrate feeding. In the third and fourth years, good pasture alone may provide most of the required nutrients. The concentrate requirement depends on the amount of training performed.

TABLE 2. Daily Gains and Feed Requirements of the Growing Colt.

Body Weight	Age	Average Daily Gain	Daily Feed *	TDN
lb.	mo.	lb.	lb.	lb.
200	2	1.6	6.7	4.2
400	6	1.2	9.9	6.2
600	14	.8	11.4	7.1
800	24	.5	12.3	7.7
1,000	44	-	10.9	6.8

* Based on 62.5 per cent TDN as air-dry material.

SOURCES OF NUTRIENTS

Many different feeds can supply the necessary nutrients for your horse. Protein-rich feeds include legume hay (alfalfa, clover, vetch) or pasture, cottonseed meal, linseed meal, and soybean meal.

Starch is available from cereal grains such as oats, barley, and corn which are low in fiber and about 75 per cent digestible.

Fresh green roughage (grass or hay) is an excellent source of vitamin A. Grain hay or bleached, poor-quality roughage contains little or no vitamin A. Supplement these with a commercially prepared source of this important nutrient.

Legumes are relatively high in calcium; cereal grains are a source of phosphorus. In most cases you should supplement a prepared mineral mix with the calcium and phosphorus contained in natural feed to get the correct proportion.

Common California Feeds

Following are characteristics of more important feed sources in California.

Pasture: In California, nonirrigated pasture is adequate for horses during only a few months.

Irrigated pasture can be used all year and, if not overgrazed, will keep an idle horse in good condition. A pastured horse at light, medium, or hard work should have the same grain ration as a horse on hay.

Alfalfa Hay: This most nutritious of available hays in California is high in protein, calcium, and vitamins A and D. It can make up all or part of a ration, but make the change to alfalfa gradually if a horse has been on oat or grass hay. Alfalfa is highly recommended for foals and pregnant or nursing mares.

Oat Hay: Oat hay is the most common horse feed in the state, although it varies considerably in energy content and total digestibility. It is not recommended as the only feed for colts, growing horses, or broodmares unless supplemented by pasture, alfalfa hay, or alfalfa meal. Oat hay is lower in protein, vitamin A, and calcium than alfalfa.

Sudan, Pasture, and Grass Hay: All may substitute for oat hay. They may vary considerably in protein and energy content.

Oats: The most commonly fed grain for horses throughout the world is oats. You may feed oats alone or mixed with barley, bran, alfalfa meal, linseed meal, or other supplements. Oats may be whole or rolled.

Barley: You may substitute barley for part or all of the grain ration. It is slightly higher in energy and lower in bulk than oats and is best combined with a bulky supplement such as bran or alfalfa meal. Barley must be rolled or ground to be an acceptable horse ration.

Wheat Bran: This is excellent as part of the grain ration, but should not make up more than a quarter of it. It is fairly low in energy and total nutrients and high in bulk. Wheat bran supplies protein and phosphorus, but it is slightly laxative. Occasionally it is fed as a hot-water mash after a day of heavy work. It is excellent for mares after foaling.

Alfalfa Meal: When good alfalfa hay or pasture is unavailable, this is an excellent supplement. When mixed with molasses it is sold as alfalfa molasses or "sweet feed." You can feed this free-choice if your horse is accustomed to it gradually. It is excellent for putting weight on thin horses.

Mixed Grain Rations: Most of those on the market are well balanced and usually include salt, vitamins, and minerals. You can use mixes as the only grain supplement, but they are expensive and rarely more nutritious than a home mixture.

"All-in-One" Feeds: Pellets or meals that include the required hay and grain portions are ground and mixed. If they are the only rations fed, use at same or slightly lower rate than good quality hay for horses at light and medium work. This is excellent feed where good hay is unavailable or hay storage is a problem; it is desirable also for horses that tend to be constipated on a hay ration. Usually it is higher priced than hay or grain rations, and some horses may still need a small amount of hay to prevent their chewing fences or developing other bad habits as a result of restlessness or boredom.

TABLE 3. Suggested Daily Rations for a 1,000-Pound Horse at Medium Work

RATION 1	
Oat hay	12 lbs.
Alfalfa hay	3 lbs.
Rolled barley	5 lbs.
Wheat bran	1 lb.
RATION 2	
Oat hay	10 lbs.
Alfalfa hay	4 lbs.
Rolled barley	4 lbs.
Oats	3 lbs.
RATION 3	
Grass hay	10 lbs.
Alfalfa hay	3 lbs.
Oats	5 lbs.
Rolled barley	3 lbs.
RATION 4	
Oat hay	8 lbs.
Grass hay	6 lbs.
Rolled barley	4 lbs.
Oats	2 lbs.
Wheat bran	1 lb.

Suggestions for Good Management

A few general rules will help you avoid some common difficulties.

- Know your horse's age and what his weight should be when he is in good condition
- Have a regular feeding time—two or three times daily, if possible
- Avoid sudden changes in type of food
- Never give your horse moldy or dusty feed
- Keep the feedbox clean
- Feed your horse as an individual—learn his special requirements and preferences
- Do not overfeed, but be sure to feed your horse adequately
- See that your horse gets adequate exercise regularly
- Have a veterinarian check your horse's teeth for soundness yearly

KEEPING YOUR HORSE HEALTHY

Keeping your horse healthy is a very important part of your project. First of all, remember that the veterinarian is a valuable friend when your horse has disease problems. Give him the chance to prevent serious trouble when your horse first shows signs of illness. Don't put off calling him. Here are a few things you should know about keeping your horse in good health.

DISEASES

Sleeping Sickness

This virus disease can kill your horse or leave him with permanent brain damage. It is most prevalent in the summer months.

Sleeping sickness can be transmitted to humans and is then known as encephalomyelitis. Ask your veterinarian about vaccination to prevent sleeping sickness in your horse.

Colic

Colic is another term for gastrointestinal upset in the horse. In most cases, colic is caused by errors in feeding and management. It can result from such things as overeating; coarse, indigestible feed; sudden changes in feed; working too soon after eating; eating while fatigued; or drinking while exhausted. Common signs of colic are pawing, stretching out like a sawhorse, looking at the side, getting up and down, rolling, and kicking at the abdomen.

A horse that is throwing itself and rolling should be walked until the veterinarian arrives. Any case of genuine colic in the horse should receive immediate veterinary attention.

Thrush

Proper cleaning of your horse's feet is an important part of keeping him healthy and well groomed. The most frequent cause of thrush is lack of proper foot care, particularly failure to clean out thoroughly the depths of the commissures and cleft of the frog. Other contributing causes may be a lack of frog pressure, insufficient exercise, filthy stables, dry feet, and cuts or tears in the horny frog.

You can detect thrush by the presence of cracks, depressions, or fissures in the horn of the frog containing a thick, dark-colored discharge with a very offensive odor. Thrush usually infects the cleft of the frog and the sides of the frog at the depths of the commissures. Thrush gradually destroys horn, which may be underrun and loosened some distance back from the edges of the external opening. Horses usually do not become lame until the destruction of horn reaches the sensitive tissues. Consult your veterinarian for treatment of thrush.

Colds

Upper respiratory infections in the horse are common problems. They often are accompanied by coughing and a runny nose. These signs also are present in equine rhinopneumonitis, equine arteritis, equine influenza and strangles, as well as other diseases. Consult your veterinarian if your horse is obviously sick and off feed or if symptoms persist. Working an animal that appears to have a mild cold often leads to more severe diseases, such as pneumonia.

INTESTINAL PARASITES

These can seriously harm your horse. They do great damage by interfering with your horse's growth, thriftiness, development, performance, and resistance to disease. Young animals are more susceptible and suffer the greatest damage.

The most common and dangerous intestinal parasites in horses are bloodworms (strongyles), roundworms (ascarids), and bots.

Bloodworms (strongyles), the most dangerous internal parasites of the horse, affect old as well as young animals. These parasites are bloodsuckers and often cause anemia, weakness, emaciation, and diarrhea. Check with your veterinarian for the choice of treatment.

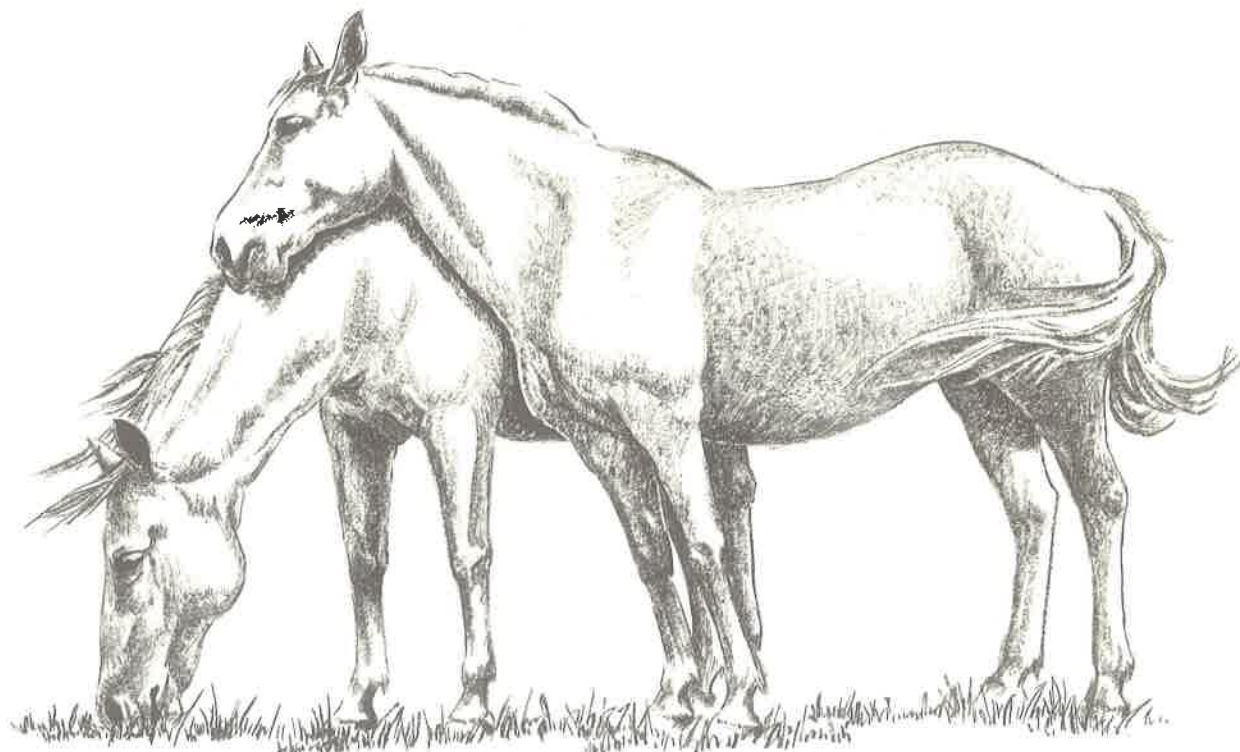
Roundworms (ascarids) are the long, white worms which you sometimes see in the horse's

droppings. They occur mainly in young horses and can cause unthriftiness, loss of energy, and digestive disturbances, particularly in colts. For treatment, consult your veterinarian.

Bots are the larval form of the botfly. A good preventive measure is to remove the small yellow eggs sometimes seen on the long hairs of the legs and belly. A veterinarian can treat your horse for bots in the spring and late fall when he treats for the strongyles and ascarids.

TEETH CARE

A horse's back teeth or molars often develop jagged edges which cut into his cheeks and bother him during eating. This problem is especially serious with horses under 6 years and with horses older than 12 to 14 years. A veterinarian should inspect and float the teeth once a year, if necessary.



HANDLING YOUR HORSE

Horses are timid and react violently when frightened. However, you need not fear horses if you use certain commonsense precautions. The reverse of this is also true; if you are overconfident or careless around horses, you may be injured.

TAKE SAFETY PRECAUTIONS

Here are some basic safety rules that should be part of your daily habits when working or handling horses.

- Never approach your horse directly from the rear. Even in a single stall it is possible to approach from an oblique angle at the rear.
- Always speak to your horse before approaching or touching him. Some horses are likely to jump and may kick when startled.
- Always walk around the rear of your horse; never walk under nor step over the tie rope.
- Always work close to your horse. If you are near his shoulder you won't be struck by his feet. Nor will you receive the full force of a kick when you work about the haunches or pass behind your horse.
- When working your horse, wear boots to protect your feet if a horse steps on you.
- When riding, wear boots with proper heels to prevent your feet from slipping through the stirrups.
- Keep your head clear when bridling or clipping the horse. He may throw his head or strike. Avoid working with nervous animals in close quarters.
- When leading your horse, walk beside him—not ahead or behind.
- Use a long lead strap and both hands when leading. If the horse rears up, release the hand nearest to the halter so you can stay on the ground.
- The horse is stronger than you, so don't try to outpull him.
- Never wrap the lead strap, halter shank, or reins around your hand, wrist, or body.
- Never tie your horse by the reins, as he may pull back and break the reins and the tie post.
- Never let your horse eat when wearing a bridle; he may step on the reins or get his feet tangled in them. Also, feed (hay) may get caught in the bit and injure his mouth.
- Keep bridle, reins, stirrup leathers, and cinch straps in the best possible condition. Your safety depends on them.
- Stand with your feet well back in the clear and reach forward when saddling the mount.
- Never mount your horse in a barn, near fences, trees, or overhanging projections.
- Adjust the saddle carefully, and then pull cinch or girth tight enough so the saddle will not turn when mounting. Soon after starting the ride, dismount and again tighten the saddle girth. Horses often swell up when first saddled, and failure to tighten girths later can result in serious accidents.
- If your horse is frightened by an obstacle, dismount and lead him past.
- Keep your horse under control and maintain a secure seat at all times. Horses are easily frightened by unusual objects and noises. Anticipate these and steady your horse.
- When your horse is frightened and tries to run, turn him in a circle and tighten the circle until he stops.

- When riding in groups, do not ride closer than one horse's length to the horse in front of you, and be alert for overhead tree branches.
- Hold your mount to a walk when going uphill or down.
- Reduce speed when riding on rough ground or in sand, mud, ice, or snow, or where there is danger of the mount falling or slipping.
- Avoid paved roads. Slow your mount to a walk when crossing such roads. If he is a spirited or young horse, dismount and lead him across.
- Never tie your horse in the trailer before the tailgate is closed. Always untie him before the tailgate is opened.
- Know your horse, his temperament and reactions. Control your temper at all times, but let him know that you are his firm, kind master.

BE FIRM AND GENTLE

Horses require kind, gentle treatment. There are few vicious horses. Most of those became vicious through abuse. However, you must be firm and consistent. Decide what you want from your horse, and insist on getting it.

Do not punish your horse, except at the instant of his disobedience. If you wait even a minute, he will not understand why you are punishing him. Punish without anger, lest your punishment be too severe. Never strike or kick your horse about the head or legs.

PREVENT VICES

Here the old adage "an ounce of prevention is worth a pound of cure" rings true again. It is much easier to develop habits that prevent vices than it is to try to break these bad habits. Some of the common vices to prevent are: kick-

ing, biting, striking, pulling back, and cribbing. Careful handling of your horse can prevent some of his vices. Kicking is frequently caused by handlers teasing, abusing, tickling, or pinching a horse. Some horses kick only at other horses. Before kicking, a horse usually will put back his ears. This is the time to touch him with a spur, or give him a sharp tug at the reins. Other horses kick only at human beings. You must exercise care around these animals. They never can be trusted. A sharp rap with a whip at the instant of the kick sometimes is helpful. A careful groom sometimes can educate a kicker out of this vice.

Biting is another vice. A confirmed biter should be muzzled or fitted with a large wooden bit. A rap on the nose at the instant of biting will help cure an occasional biter. Never tease a horse to make him bite, even in play.

Striking is a vice where the horse throws one or both front feet forward to hit a person or another horse. Injury to horses and handlers may result. Seek advice from an experienced trainer before you attempt to cure this vice.

A horse that pulls back is likely to break equipment, particularly halters. Seek advice from an experienced trainer before you attempt to cure this vice.

Cribbing and wind sucking usually are associated, although a horse may be subject to one vice without the other. Cribbing involves chewing boards in fences, paddocks, corrals, or feedboxes. This may damage his teeth. To prevent cribbing, nail metal strips on the tops of gates, fences, and feedboxes in stalls. Wind sucking is a practice in which the horse bears down on the manger or other projecting object with his upper teeth, flexes his neck, and sucks wind into his stomach. Seek advice from an experienced trainer before you attempt to cure these vices.

Patience pays off with a balky horse. Do not whip him; speak gently to him, pulling him to the right and left alternately with the reins. Be patient, and do not try to hurry him.

GROOMING YOUR HORSE

Grooming means not only cleaning your horse but also improving his health. It means he will look better, eat better, feel better, and, as a result, act and perform better.

Vigorous grooming massages the underlying body muscles and improves their fitness. It cleans the hair. It stimulates the pores to produce natural oils that bring a shine to your horse's coat. You won't need to apply artificial oils if you groom your horse regularly, properly, and thoroughly.

Grooming gives you a chance to go over the entire body of your horse. In doing so, you can discover parasite eggs, lice, mange, or skin disorders. If you find any, control them immediately.

USE PROPER EQUIPMENT

Grooming equipment may include:

- rubber or plastic currycomb
- dandy brush—a stiff-fibre brush used for the mane and tail and the extreme lower portion of the legs
- body or finishing brush—a soft-fibre brush
- sponge
- grooming cloth, such as Irish linen, salt sack, or even burlap, which will shake out readily
- hoof hook to clean the horse's feet

Keep this equipment clean. You would not wash your face with a dirty cloth nor comb your hair with a dirty comb or brush. This applies to your horse; you can't do a clean job with dirty tools.

FOLLOW PROPER GROOMING PROCEDURE

Follow these steps in grooming.

1. It is best to take your horse out of the stall and crosstie him securely. If you cannot take him from the stall, tie him before you start grooming. This is a must for your safety. There are four accepted ways to secure a horse for grooming: direct tie, crosstie, rope-in-hand, and hobble.
2. Remove the stable sheet or blanket properly. This is another must for your safety. Release the back strap first, then the middle strap, and finally the front strap. Pull the blanket off your horse along the lay of the hair. Turn it inside out, shake it, and hang it where it will air while you are grooming. When you put the blanket back on your horse, be sure you fasten the front strap first.
3. To groom your horse, start on the left side. Take the currycomb in the right hand and the body brush in the left. Start with the currycomb and follow along with the body brush. Begin on the neck immediately behind the head. Then work the chest, the withers, the shoulders, and foreleg down to the knee. Then work the back, the side, the belly, the rump, and the hindleg down to the hock. The motion for the currycomb should be irregular, back and forth, or in a small circular motion. Remember, never use it about the head or on the legs from the knees and hocks down.

Clean your currycomb by tapping it against the heel of your boot. Clean your brush every few strokes with the currycomb.

Now groom the right side in the same order as you did the left, changing your brush to the right hand and currycomb to the left.

Finally, brush the head and face, using the body brush.

Put your body brush aside. Take your dandy brush and brush the mane and tail. Start at the bottom or ends and work gradually toward the roots. Free any entanglements with your fingers.

Wash the tail occasionally with warm water and soap. Be sure to rinse thoroughly.

Use the grooming cloth or rub rag to wipe the ears, the face, the eyes, the nostrils, lips, sheath and dock, and give a final polish to the coat.

A sponge is a good grooming tool. Soak the sponge in water and press out as much water as possible. Your sponge should be damp, but not dripping. Stroke the eyes with an outward circular motion, the ears with an upward motion. Clean the nostrils and the lips with your damp sponge. Then go to the rear of your horse, raise the tail and clean the portion of the dock where there is no hair. This is where sweat and dirt collect and often cause a sore tail.

Give extra care to his knees and elbows, or hocks. These places are abused when your horse lies down and gets up. Use a damp sponge to straighten out the hair.

Your horse has feelings. Don't abuse him by severe grooming. Be careful with the thin-skinned or short-haired animal. Don't apply so much pressure that you irritate the skin. To do the best job, stand erect, an arm's length from your horse so that when your arms are extended forward you will just touch your horse with the palm of your hand. Then, when working, you'll have to lean forward. Your body leaning toward the horse should give you enough pressure. Apply just enough so that there is

movement between the skin and the underlying muscles. It is this massaging action in grooming that is most effective.

CLEAN YOUR HORSE'S FEET REGULARLY

Few things in grooming and caring for your horse are as important as properly cleaning his feet.

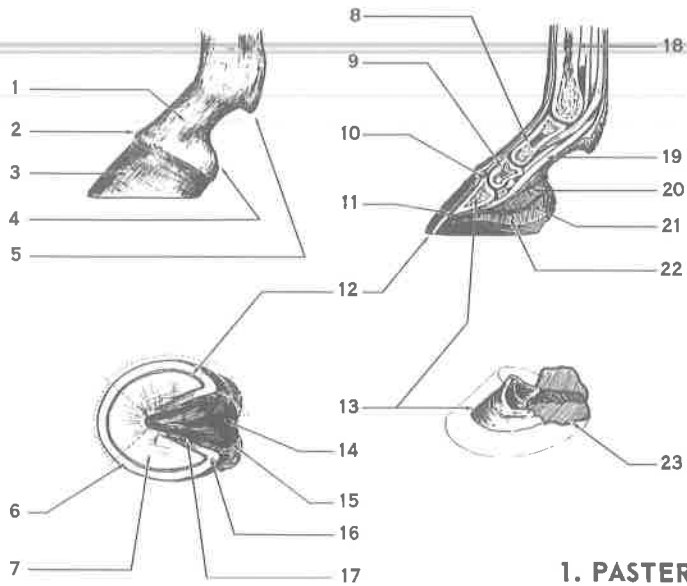
Lack of proper grooming of his feet, particularly failure to clean out thoroughly the depths of the commissures and cleft of the frog, can cause thrush. Contributing factors include a lack of frog pressure, insufficient exercise, filthy stables, dry feet, and cuts or tears on the horny frog, but failure to clean a horse's feet properly causes thrush most frequently.

If your horse is shod, replace or reset shoes every 6 to 8 weeks. Unshod horses, broodmares, and colts need their feet trimmed every 8 to 10 weeks.

Hoof dressing and oils improve the appearance of the horse's feet for show, but most of them do little to soften hard and brittle hooves. Standing the horse in mud for a few hours will do this best.

Remember that cleaning your horse's feet is a part of grooming, and do it regularly. This means that you should know how to pick up your horse's feet.

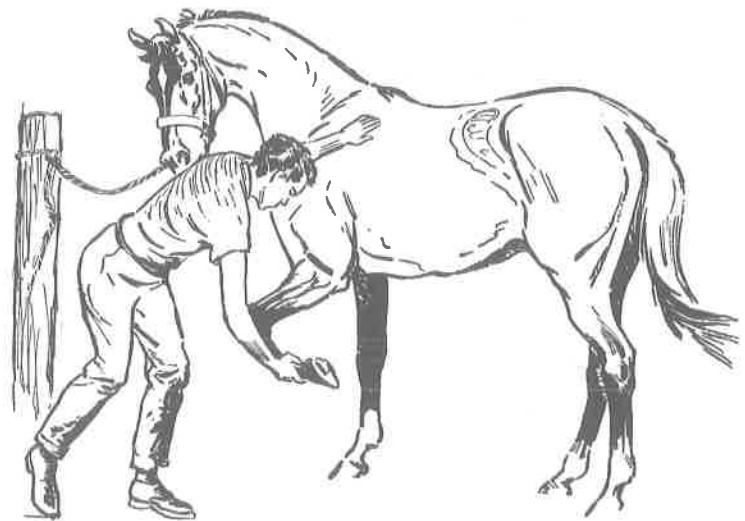
When you have a clean horse, remember to put the stable sheet or blanket on your horse and fasten the buckle in FRONT first. Then adjust your sheet or blanket, then the front body strap, and then the body strap.



- 5. FETLOCK
- 6. WALL
- 7. SOLE
- 8. LONG PASTERN
- 9. SHORT PASTERN
- 10. CORONARY BAND
- 11. SENSITIVE LAMINAE
- 12. WHITE LINE
- 13. COFFIN BONE
- 14. CLEFT OF FROG
- 15. FROG
- 16. BUTTRUSS
- 17. COMMISSURES
- 18. CANNON BONE
- 19. DEEP FLEXOR TENDON
- 20. PLANTAR CUSHION
- 21. SENSITIVE FROG
- 22. INSENSITIVE FROG
- 23. LATERAL CARTILAGES

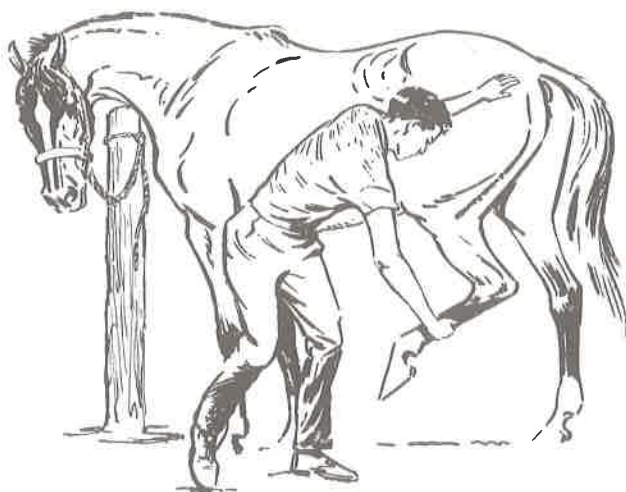
- 1. PASTERN
- 2. CORONET
- 3. HOOV
- 4. BULB

1. Always work in order—near fore, near hind; off fore, off hind. Stand on the left side of your horse, facing his rear. Place your left hand on the horse's shoulder. Bending over, run your right hand gently but firmly down the back of the leg until the hand is just above the fetlock. Press against the horse's shoulder with your left hand, forcing his weight onto the opposite foreleg. Grasp the fetlock with the fingers.



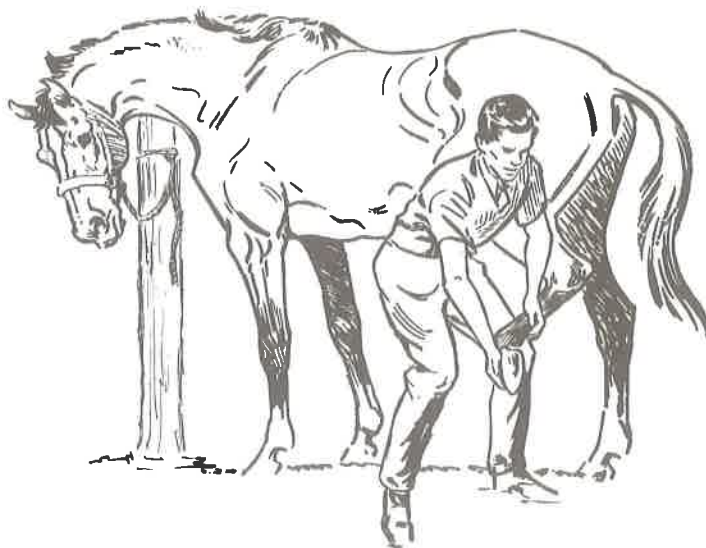
2. When the horse picks up his foot, support it on your left knee.

3. With the hoof hook, clean out the hoof from heel to toe. Clean around the frog—the triangular growth in the center of the hoof. At the back of the frog is a depression which goes up into the hair. This is called the **cleft**. The depressions on each side of the frog are the **commissures**. It is important to clean thoroughly both of these areas, as **thrush** and other foot infections occur in these places. Inspect the feet for rocks, nails, injuries, loose shoes, and thrush.



4. Again working from the left side, stand well forward of the horse's hindquarters, facing his rear. Gently stroke the back as far as the point of the hip, against which your left hand is placed. Stroke the leg gently but firmly with your right hand down as far as the middle of the cannon. Press against the horse's hip, forcing his weight onto the opposite hindleg. Grasp the cannon just above the fetlock with your right hand, lifting the foot directly toward you so that the leg is bent at the hock.

5. Then move to the rear, keeping the hindleg next to your thigh. **Avoid holding the foot out to one side of the horse.** The discomfort of this position will make him resist. Swing your left leg underneath the fetlock to support the leg firmly.



SHELTER AND CORRAL

PLANNING A SHELTER

You don't need elaborate shelter for your horse, but some protection from the weather is desirable. Simple three-sided buildings with shed-type roofs are adequate if the open side is away from the prevailing wind and rain. Your farm advisor can supply plans for horse barns. These plans may be more elaborate than you want, but they will give you ideas on how to make a shelter for your horse.

Horses may be kept in box or tie stalls. Box stalls should be at least 10 by 10 feet with solid walls of smooth planks at least 7 feet high. A well-drained earth floor is preferable to wood or concrete. If you use concrete for flooring, cover it with planking. Ceiling should be at least 8 feet high, and 4-foot doors are desirable. Doors should be divided horizontally at about the halfway point so you can open the top half for ventilation and light. Place metal or wood feedboxes and hayracks at a convenient height for your horses.

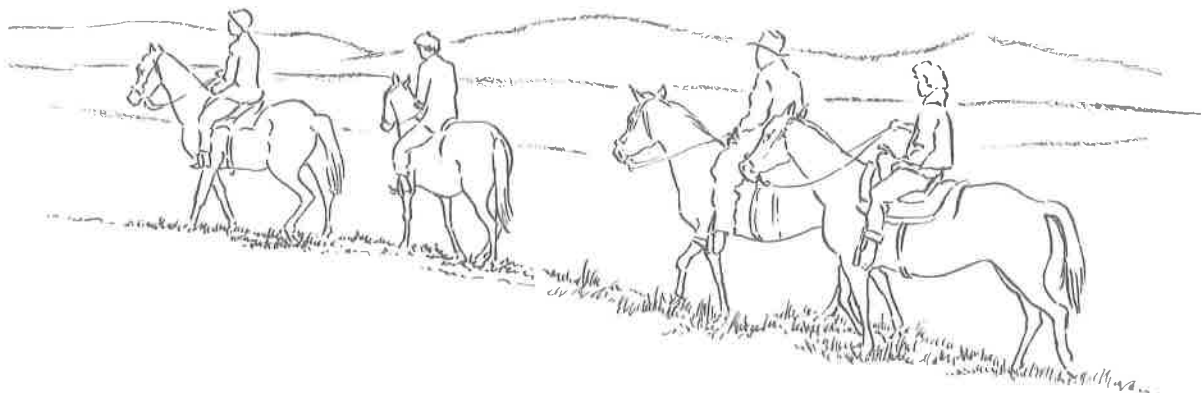
Tack and feed storage should be a part of shelter plans, and give thought to preventing rodent damage. Proper hangers will keep equipment off the floor.

BUILDING A CORRAL

When horses are kept in box or tie stalls, clean these stalls daily to prevent thrush. Dispose of manure promptly to prevent fly problems.

Remember that a horse confined to a stall must have exercise, so plan a daily program of exercise for your horse. Corrals are desirable for handling your horse. When space is available, they should be located adjacent to the stall and be large enough to provide an exercise area. Wood and pipe are preferable fencing materials. Barbed wire is undesirable because of the danger of cuts. Horses also can catch shoes in woven wire and damage their feet. Sometimes horses push fences out of shape by leaning on them. You can prevent this by placing a smooth strand of wire at the top of the fence and energizing it with an approved electric fence charger.

Include plenty of clean, fresh water in plans for shelters and corrals. Locate tanks and automatic devices where they may be drained and cleaned easily.



CARING FOR TACK AND EQUIPMENT

Your tack and equipment is as much a part of your horse project as your horse. It's important that you know how to care for it and use it properly. Learn to identify the parts of your saddle and bridle. Learn how to halter, tie, saddle, and bridle your horse properly.

At home, always hang your saddle and bridle on suitable racks in a dry room. A 1-pound coffee can nailed to the wall makes an excellent bridle hanger. (Never hang a bridle on a nail!) Mice like leather, so watch out! Air and dry saddle and stable blankets immediately after use. Occasional washing is necessary.

Regular cleaning and care keeps equipment looking well, and adds greatly to its life and usefulness. A thorough cleaning technique for all equipment automatically provides a safety check, an important factor in horsemanship.

First, take the equipment apart, then wipe it as clean as possible with a dry rag. Brush the lamb's wool under the saddle with a whisk-broom to remove all foreign material. (Also spray with a moth repellent once a year.) Then wash all leather parts thoroughly with castile soap and water to remove all dirt and sweat. When leather is extremely dirty, a small amount of sal soda in the water will help to clean it.

Then apply saddle soap, using an almost-dry sponge to further clean, soften, and replace the natural oils in the leather. The sponge should be dry enough so there is no lathering. Rub a generous amount of saddle soap into the leather. Let the leather dry thoroughly, then rub it vigorously with a clean, dry cloth to obtain a shine and to fill the pores and cuts on the surface. You may want to use neat's foot oil or other leather finish material on parts that constantly come in contact with the horse. This replenishes the natural oils.

An old toothbrush is helpful in cleaning the bit and other metal. After washing the metal parts with soap and water to remove all saliva, grass, dirt, etc., dry, and apply a cleanser or metal or silver polish to remove stains and tarnish. Always be careful to remove all of the polish from the bit.

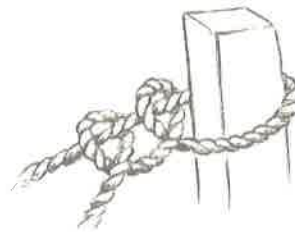
For shows or fairs, you need a water bucket (at least 16-quart size), a feed pan or feedbox for grain, a second bucket for washing your horse and equipment, a box for your grooming equipment, and preferably a tack box or trunk for your saddle, bridles, and other equipment. Well-kept equipment marks a good horseman. Keep yours so you can take pride in it always.

USE AND IDENTIFY EQUIPMENT PROPERLY

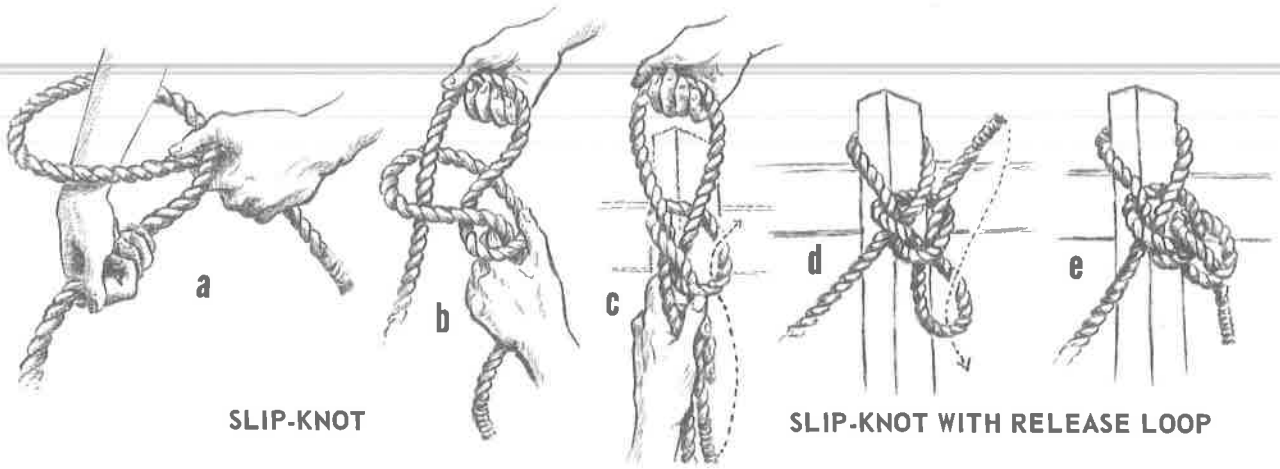
Every horseman should know how to identify and use his equipment. You should be familiar with these basic knots and pieces of equipment. The knots include the slip-knot, the bowline, the manger tie or clove hitch, and the half-hitch. Study the sketches and practice the knots until you can tie them rapidly.



HALF-HITCH INTO TIMBER HITCH

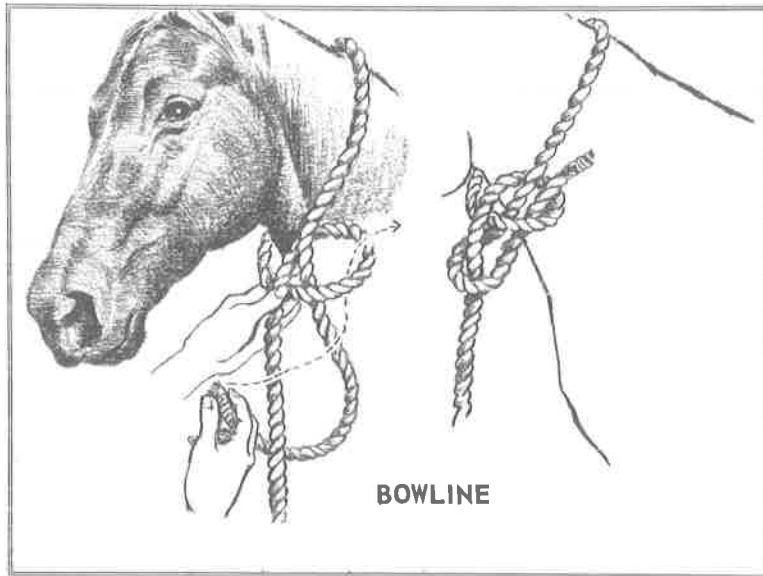


TWO HALF-HITCHES

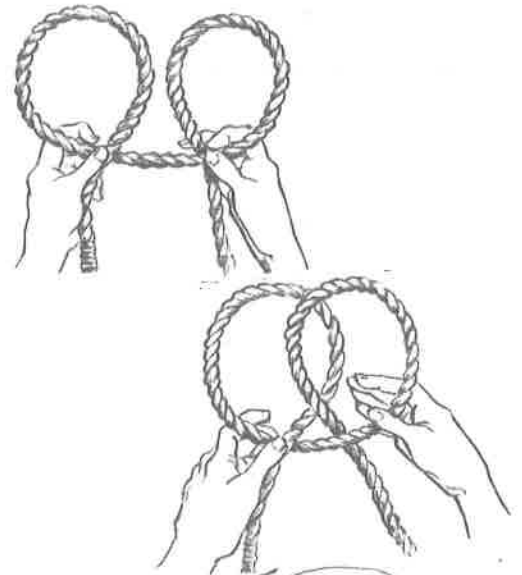


SLIP-KNOT

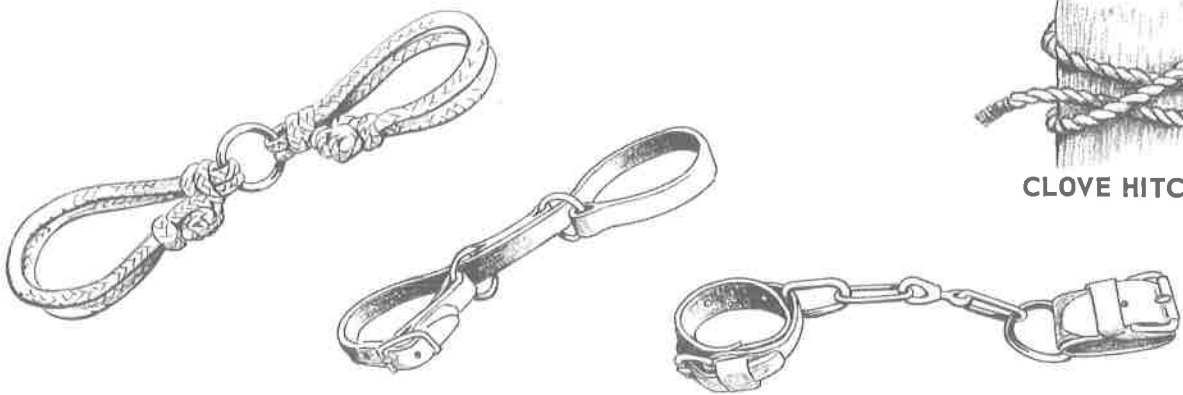
SLIP-KNOT WITH RELEASE LOOP



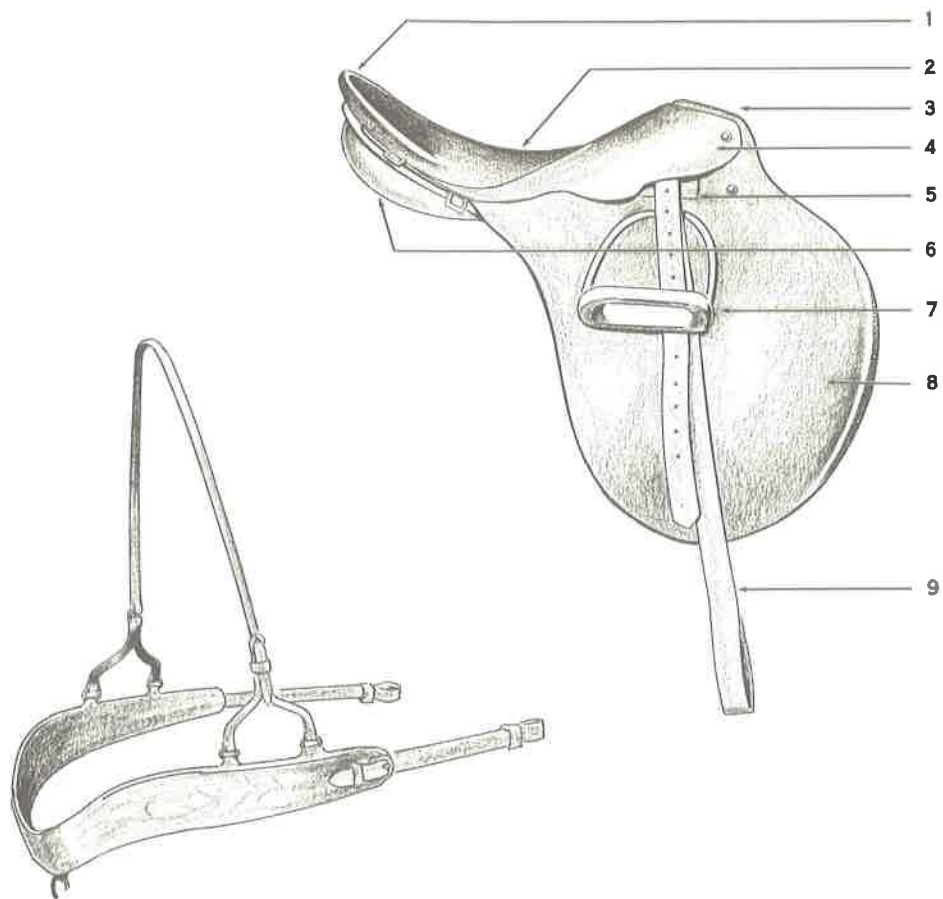
BOWLINE



CLOVE HITCH



HOBBLER



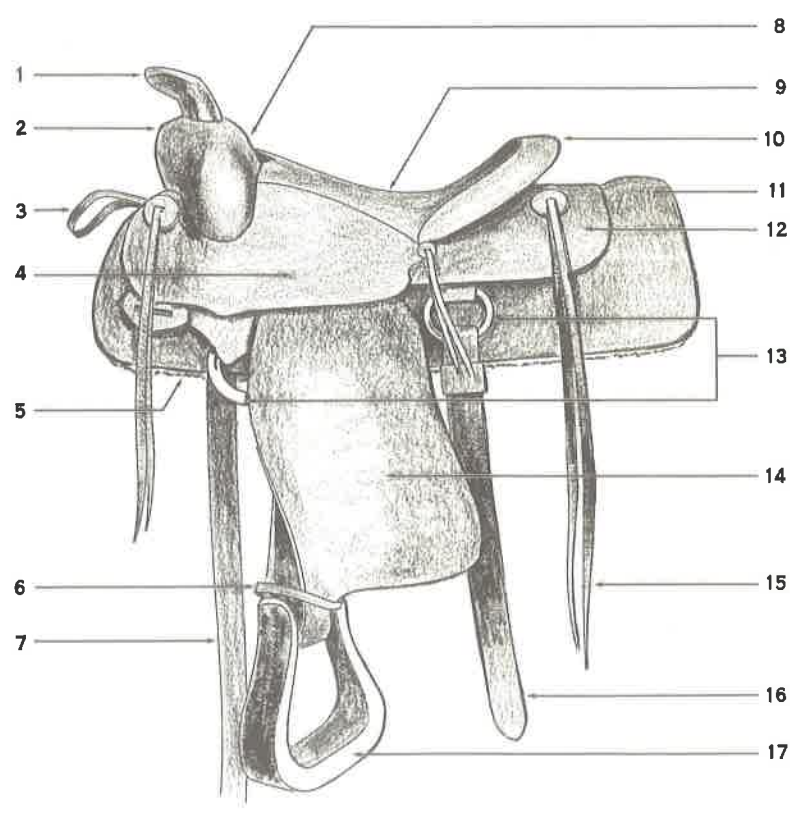
ENGLISH SADDLE

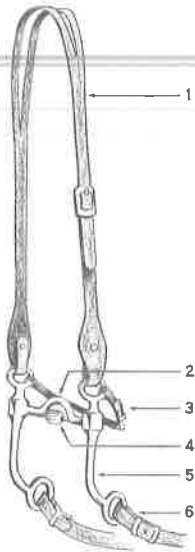
- 1. Cante
- 2. Seat
- 3. Pommel
- 4. Skirt
- 5. Stirrup Bar
- 6. Panel
- 7. Stirrup Iron
- 8. Flap
- 9. Stirrup Leather

BREAST STRAP

WESTERN STOCK SADDLE

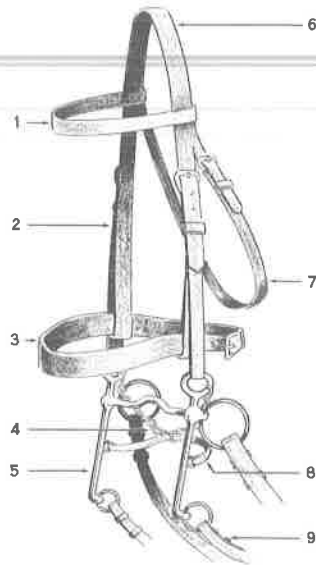
- 1. Horn
- 2. Pommel
- 3. Rope Strap
- 4. Front Jockey and Seat Jockey,
One Piece
- 5. Sheep Wool Lining
- 6. Stirrup Leather
- 7. Front Tie Strap or Cinch Strap
- 8. Fork
- 9. Seat
- 10. Cante
- 11. Skirt
- 12. Back Jockey
- 13. Dee Rings
- 14. Fender
- 15. Lace Strings
- 16. Leather Flank Girth
- 17. Stirrup





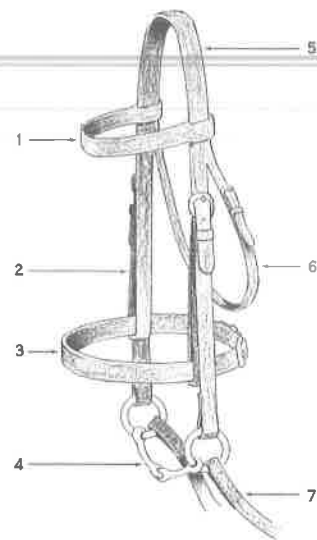
SPLIT-EARED BRIDLE WITH HALFBREED BIT

- 1. Split-ear Headstall
- 2. Port
- 3. Strap
- 4. Roller or Cricket
- 5. Cheek
- 6. Reins



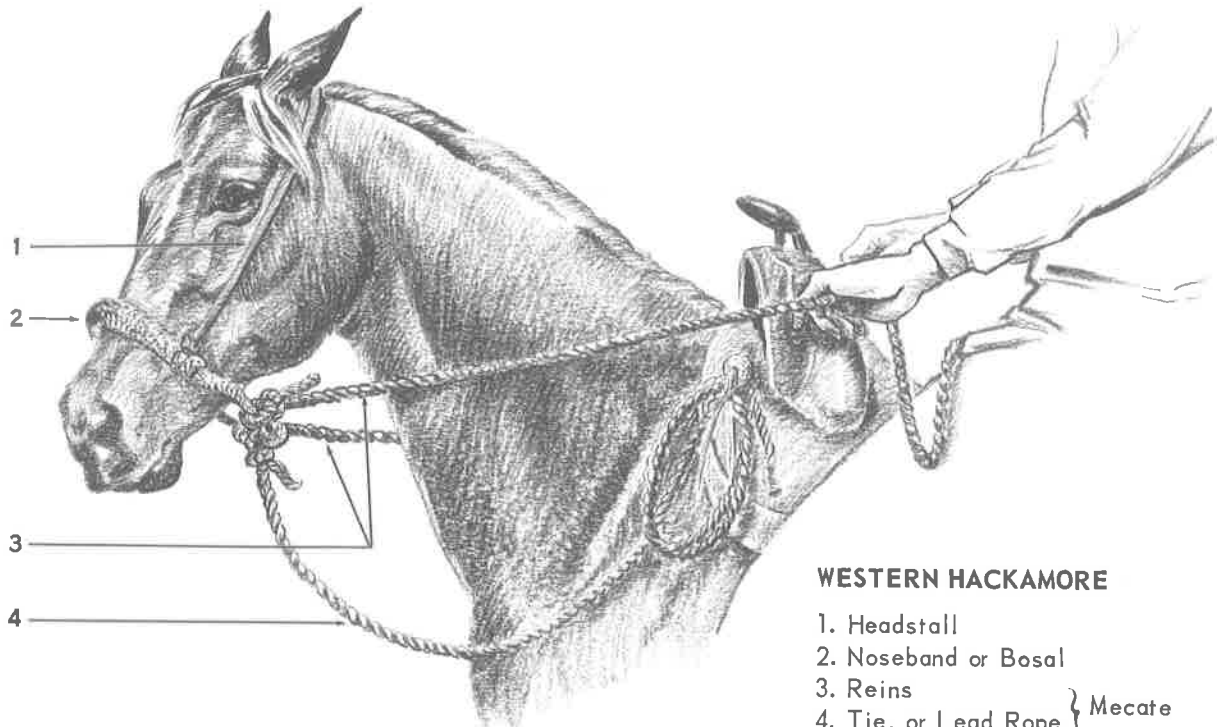
PELHAM BRIDLE

- 1. Browband
- 2. Cheek Pieces
- 3. Noseband or Cavesson
- 4. Curb Chain
- 5. Pelham Curb Bit
- 6. Crown-piece
- 7. Throat Latch
- 8. Lip Strap
- 9. Reins



SINGLE-REINED BRIDLE WITH SNAFFLE BIT

- 1. Browband
- 2. Cheek Pieces
- 3. Noseband or Cavesson
- 4. Snaffle Bit
- 5. Crown-piece
- 6. Throat Latch
- 7. Reins



WESTERN HACKAMORE

- 1. Headstall
- 2. Noseband or Bosal
- 3. Reins
- 4. Tie, or Lead Rope } Mecate

BODY COLORS, COLOR PATTERNS AND BODY MARKINGS

Horsemen have a language all their own to describe the colors and markings of the horse. Here are some things you should know to describe properly a horse for entry in competition, to fill out registration papers, or just to describe him to another horseman. This color guide is based upon the official rules of the Jockey Club for registering thoroughbred horses.

BODY COLORS

BAY varies from a light yellowish tan (light bay) to a dark rich shade, almost brown, and between these a bright mahogany (blood bay).

BROWN appears black with fine tan or brown hairs on the muzzle or flanks.

BLACK can be determined by the fine black hair on the muzzle when in doubt between dark brown and black.

CHESTNUT varies from a dark liver color to a light washy yellow, between which come the brilliant red-gold and copper shades. Chestnuts never have black mane, tail, or points.

DUN varies from mouse color to a golden dun, and generally is accompanied by black points and ray.

GRAY is a mixture of white hairs and black, sometimes scarcely distinguishable from black at birth, getting lighter with age.

ROANS have two classes—red or strawberry—produced by the intermingling of red, white, and yellow hairs; and blue, produced by the intermingling of black, white, and yellow hairs.

COLOR PATTERNS

Not all horses can be described by the body colors given in the Jockey Club color guide. Horsemen also use other color combinations, called color patterns. Here are some of the more common ones.

APPALOOSA combines dark roan or solid color foreparts with dark spots over loin and hips; white with dark spots over entire body.

DAPPLED have visible spots, either light or dark, overlying the basic body color.

PALOMINO is a golden body color combined with white mane and tail.

PAINT or **PIED** (Pintos). **PIEBALD** is a white and black combination; **SKEWBALD** is white with any other color but black.

BODY MARKINGS

The Jockey Club officially describes the following markings:

BLACK POINTS include a black mane, tail, and extremities.

RAY is the line down the middle of the back of some horses, particularly dun.

ZEBRA MARKS are the dark, horizontal stripes seen on the forearm, knees, and back of the cannon region.



STAR



SNIP



STRIPE



BLAZE



STAR, STRIPE
AND SNIP



BALD



STAR AND STRIPE



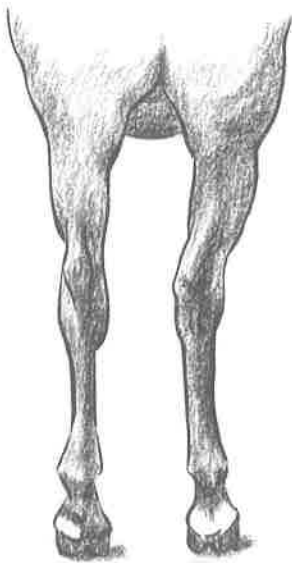
CORONET



HALF PASTERN



PASTERN



OUTSIDE
HEEL

BOTH
HEELS



INSIDE HEEL

FULL STOCKING



ANKLE



HALF STOCKING

SELECTION, CONFORMATION, AND JUDGING

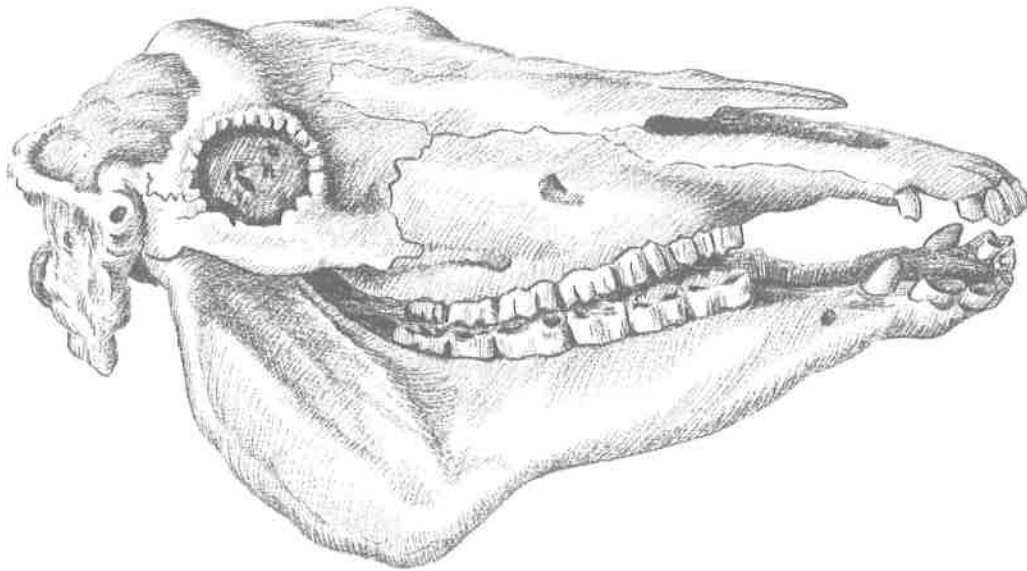
SELECTION

A basic knowledge of conformation will help you select the right kind of horse. However, it takes many years to see the faults of conformation quickly. Until you have sufficient experience, have an experienced horseman help you choose a horse. Meanwhile, look carefully at the horses you see. Compare one horse with another. You may never see the perfect horse, but you will train your eyes to detect differences between animals.

Every horseman should be able to tell something about the age of a horse by examining

the front teeth. This you can do fairly accurately until the animal has passed the eighth year. With a little practice you will be able to determine whether the animal is in a certain age period. These four periods are: colt's mouth, full mouth, smooth mouth, and old mouth.

The mature male horse usually has 40 teeth; usually the mare has 36 teeth. Twenty-four of these are molars or grinders, four are tushes or bridle teeth, and 12 are incisors or front teeth. The tushes usually are not present in the mare.



SKULL OF A MATURE HORSE

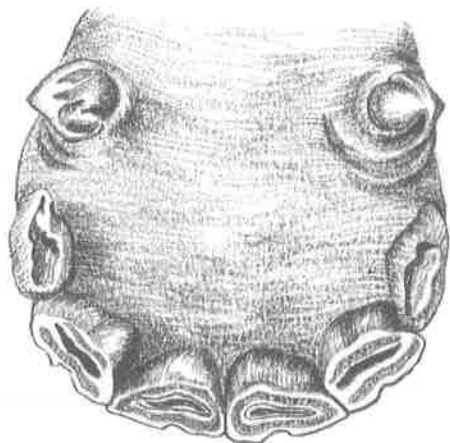
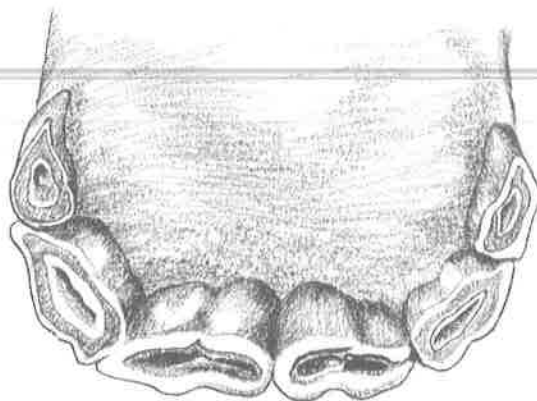
The young animal, whether male or female, has 24 temporary teeth, usually called "milk teeth." These milk teeth consist of 12 molars and 12 inci-

sors. They are much whiter than the permanent teeth, and are replaced by the permanent teeth as the animal reaches 5 years of age. It is this change from milk teeth to permanent teeth that serves to determine the age of young horses.

COLT'S MOUTH AT 2½ – 3 YEARS

The central pair of milk teeth have been replaced by permanent incisors, two below and two above.

As the colt reaches 5 years of age, the change from milk teeth to permanent teeth usually is complete.



FULL MOUTH AT 5 YEARS

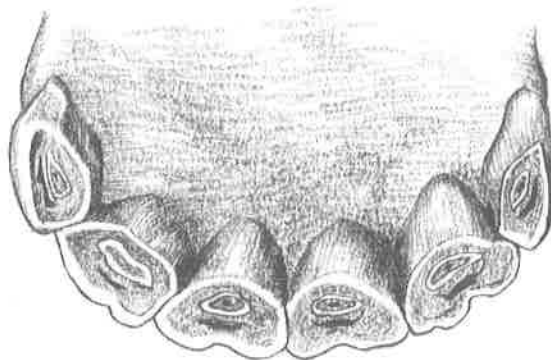
All the milk teeth have been replaced by permanent incisors. Tushes indicate that the animal is a male. The dental "cup" is well marked, showing little wear.



From the full mouth period on into the smooth mouth period, the age differences are shown by the degree of wear on the surfaces of the teeth.

SMOOTH MOUTH

The dental cup or cavity has disappeared. The teeth have a round, rather than an oblong shape, as seen in the full mouth period.



A. At 6 years.



B. At 20 years.

COMPARISON OF INCISORS AT DIFFERENT AGES

OLD MOUTH

The old mouth period in a horse's life is marked by further wear on the surfaces of the teeth, but largely by the front teeth pushing forward at an oblique angle.

CONFORMATION

Look for and recognize these conditions in horses. Then weigh the good points against the bad. The words used to describe these features will have more meaning for you as you gain judging experience.

Desirable Characteristics

Head - pleasing; wide between the eyes; eyes full and bright

Neck - refined and in proper balance with the head and body

Shoulder - long and sloping

Back and loin - short, strong, and heavily muscled

Chest and flank - deep, wide, and full

Middle - deep and roomy

Ribs - long and well sprung

Legs - straight and strong, set squarely "under the cannon"

Joints - large, strong, neat, and clean

Undesirable Characteristics

Weak constitution - narrow chest, long shallow body, shallow flank, long weak hock

Weak underpinning - shallow, flat, shelly feet; light weak cannon; crooked and weak hock

Unsoundness - spavin, poor eyesight, heaves, ringbone, curb splints close to knee, sidebones, fistula

Action and Disposition

Although not part of the horse's conformation, action and disposition are very important to observe.

Action should be straight and free. A horse moves on his feet and legs; if they are weak or improperly formed, his usefulness is limited. A horse has poor action if he has straight shoulders; straight, short pasterns; crooked legs and feet;

or a short, stubby gait. These may cause gait faults such as paddling or interfering.

Paddling, or winging (exaggerated paddling), is a minor gait fault which does no damage, but is unsightly. The horse tosses the heels of his hooves outward laterally just as he lifts them from the ground. This defect is most common in young horses with gaits not yet "settled," and in toe-narrow or pigeon-toed animals. "Tight longeing"—exercising young horses in a short rope circle—may encourage paddling. You can detect paddling by viewing the trotting horse from the rear.

Interfering is a common gait defect in which the horse strikes the inner surface of the hoof or lower leg with the hoof of the opposite leg. Most commonly seen in the forelegs, interfering may be only a nuisance or it may produce injury. Squaring slightly the hoof or shoe toe can correct mild cases of interfering. Severe cases may require rasping or cutting back that portion of the hoof or shoe that strikes the opposite leg.

A horse's disposition should be gentle and controllable. A horse may reveal bad temperament by: balking, kicking, rearing, backing, shying, halter-pulling, or hanging back.

JUDGING

When judging, follow an orderly system that allows you to see everything about the horse. First, get a good view of the horse from a distance. This helps you decide on conformation, width, height, type, and balance. Viewing the horse from a distance also helps you recognize features you cannot see any other way.

Inspect the horse closely from the front, from behind, and from the side. Inspect for soundness, type and quality of legs and feet, and quality and substance of bone. Feel the area immediately below the coronet, pasterns, and cannons with your hand. You can detect sidebones, ringbone, and splints this way.

Every horse owner should be able to recognize the common unsoundnesses, defects, and blemishes.
~~When you examine a horse you should:~~

- observe the animal in a stall
- examine the horse at halter
- observe the horse in motion
- observe the animal after exercise

If you are suspicious or detect something you do not understand, call an expert and have the horse thoroughly examined.

DEFINITIONS OF UNSOUNDNESSES

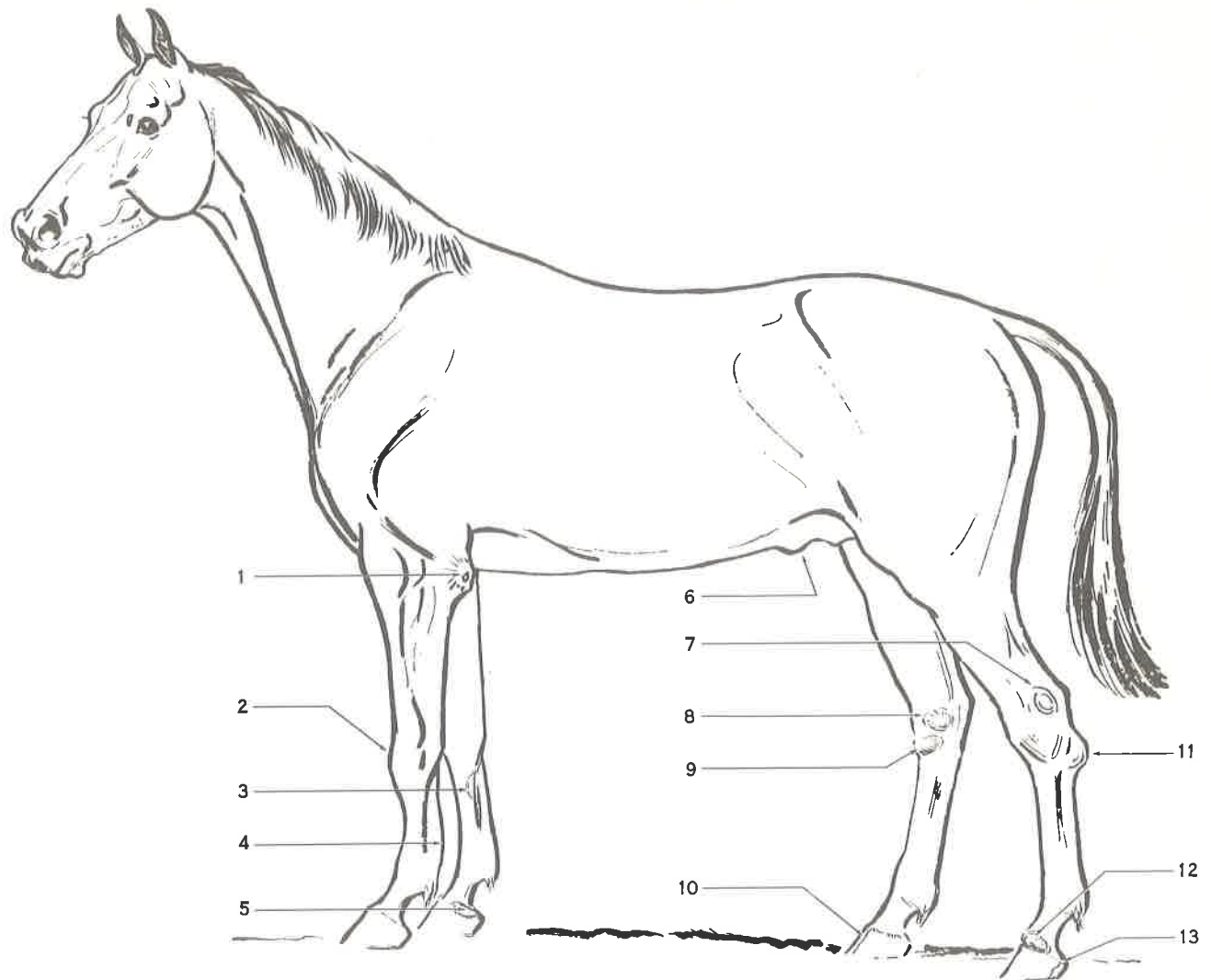
- FEET -** Toe crack - a split in the front part of the hoof wall; may be partial, complete, or high or low.
Quarter crack - a split in the quarter area of the hoof wall which is toward the heel.
Seedy toe - a separation of the wall of the hoof near the toe.
- PASTERN -** Ringbone - a bony enlargement surrounding the bones of the pastern.
Sidebone - ossification of the lateral cartilages.
- CANNON -** Splint - a bony enlargement in the groove formed by the splint and cannon bones; may be high or low, forward or back.
Bowed tendon - an extension backward of the flexor tendons as a result of being torn or stretched.
- HOCK -** Capped hock - an enlargement on the point of the hock.
Curb - an enlargement below the point of the hock.
Thoroughpin - a soft, puffy enlargement in the web of the hock.
Bog spavin - any inflammation or swelling of the soft tissues of the hock.
Bone spavin - any bony enlargement on the bones of the hock.
- HIP -** Knocked-down hip (hipped) - a fracture of the point of the hip.
- KNEE -** Over in the knee - a bending forward of the knee as a result of injured tendons, foot trouble, or hard work at too early an age.
- ELBOW -** Capped elbow - enlargement at the point of the elbow.
Shoe boil - running sore at the elbow.
- BODY -** Hernia (rupture) - a protrusion of a loop of tissue through an abnormal opening.

UNSOUNDNESSES REVEALED BY PERFORMANCE

Heaves - a forced and labored breathing.

Roaring - an abnormal sound produced when breathing.

Stringhalt - a peculiar jerking up of the hindleg when walking or trotting.

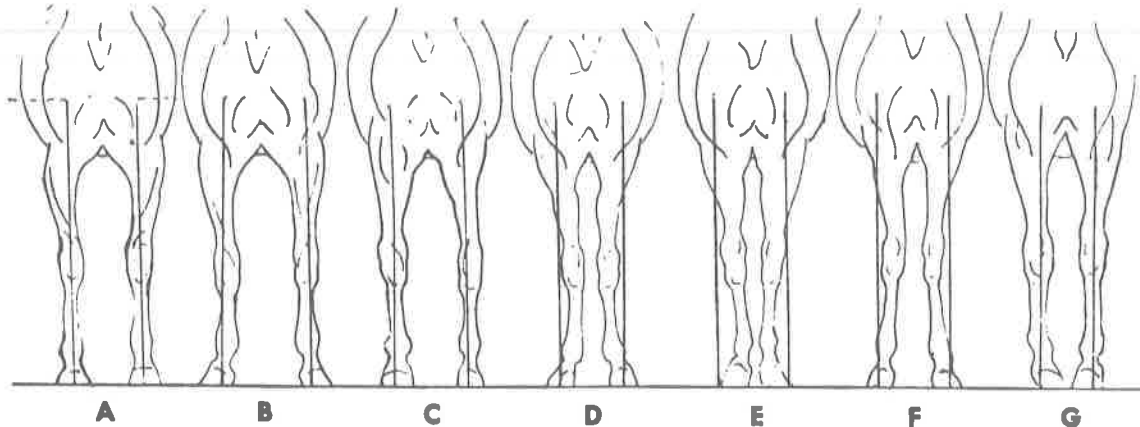


UN SOUNDNESSES OF THE HORSE

- 1. SHOE BOIL
- 2. OVER IN THE KNEE
- 3. SPLINT
- 4. BOWED TENDON
- 5. SIDEBONE
- 6. HERNIA

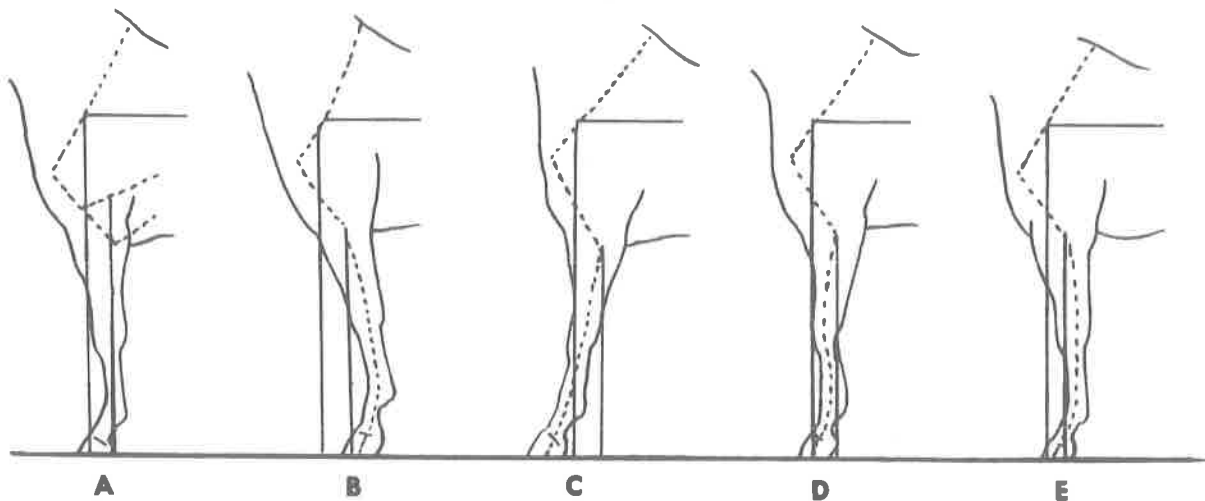
- 7. THOROUGHPIN
- 8. BOG SPAVIN
- 9. BONE SPAVIN
- 10. TOE CRACK
- 11. CURB
- 12. RINGBONE
- 13. QUARTER CRACK

LOCATION OF SOME COMMON UNSOUNDNESSES



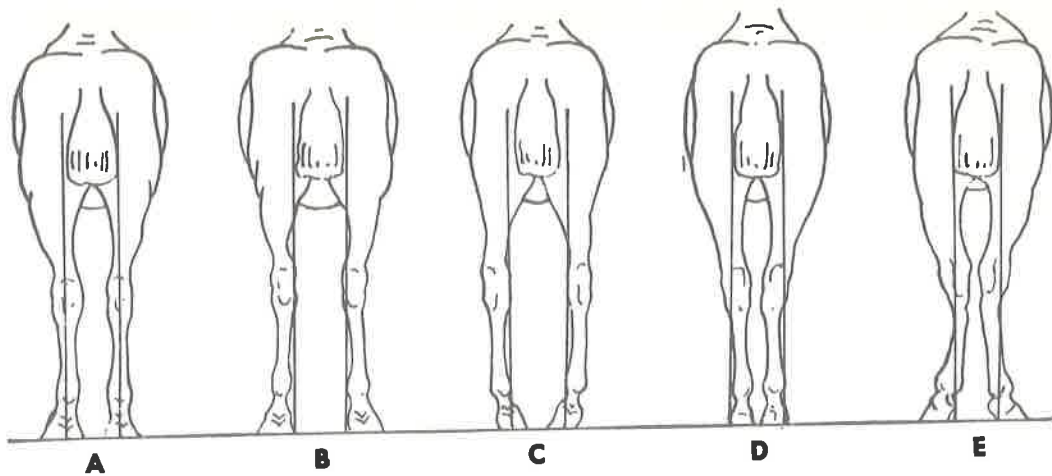
FRONT VIEW OF FORELEGS

A vertical line from the point of the shoulder should fall on the center of the knee, cannon, pastern, and foot. The right conformation is shown at A; in B the forefeet toe out; in C the bowed legs are weak; D shows the extreme of knees set close together with toes pointing outward, and horses with such conformation almost invariably interfere; E illustrates a form of conformation predisposing to interfering; in F the knees are set close together, showing a tendency to knee hitting; while in G, the subject will wing or throw out his feet as they are elevated, which retards action.



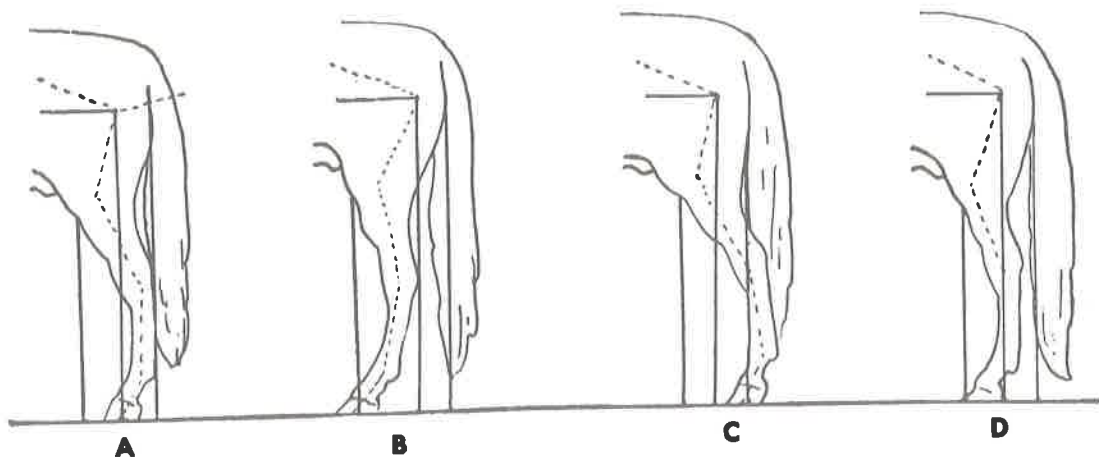
SIDE VIEW OF FORELEGS

A vertical line from the center of the elbow joint should fall on the knee and pastern and back of the foot, and a vertical line from the middle of the arm should fall on the center of the foot. A represents the right conformation; B shows forelegs too far under the body; in C they are too far advanced; in D, the subject is knee-sprung; and in E is illustrated what is commonly known as calf leg. Knee-sprung horses are apt to stumble; calf-legged horses often are sore in their forelegs after they have been used a while.



REAR VIEW OF HINDLEGS

Viewed from the rear, the hindlegs have the greatest strength when they have the direction shown in A. This direction is correct when a vertical line from the point of the buttock crosses the center of the hock, cannon, pastern, and foot. B shows hindlegs set too far apart, tending to produce a sprawling gait. In C the hind feet set too far apart, tending to produce a sprawling gait. In C the hind feet toe in or are pigeon-toed, the joints being improperly formed, producing considerable undesirable lateral motion when the feet are carried forward. With such conformation the feet cannot be carried in a straight line. In D the hindlegs are set too close together, predisposing the horse to interfere. The condition shown in E is generally known as cow hocked, and hindlegs so formed do not have the strength of those in which the columns of bones are placed directly over one another.



SIDE VIEW OF LEGS

A vertical line from the hip joint should cross the center of the front and divide the gaskin in the middle; a vertical line from the point of the buttock should coincide with the back of the cannon. In B, the hindlegs stand too far under the body; in C, the hindlegs are set too far back; and in D, the hock joint is too straight.

FITTING AND SHOWING YOUR HORSE

You probably will exhibit your horse both at halter and under saddle. Showing under saddle varies so greatly, depending on the type of riding you do, that it will not be discussed in this manual. However, some general rules about fitting your horse to present him at his best for show apply to all kinds of competition.

FITTING YOUR HORSE

"Fat is a good color." Your feeding program should insure that your horse arrives at the show in good condition, evenly covered with fat so that ribs, hipbones, and the top of the rump do not show prominently. Do not allow your horse to become overly fat or show a hay belly. A grain ration will help to bring your horse up to condition.

Clean, short, and shiny hair is essential for a horse to look his best. During the summer, grooming and blanketing will do the job. In winter, clipping may be necessary. Always blanket a clipped horse. Coarse, long hair which stands up during the summer months usually is a sign of poor health, probably due to parasites, poor teeth, or bad feeding. Washing helps clean an animal, but makes the hair stand up. Therefore, wash your horse a day or two before showing, whenever possible. Direct sunlight while waiting to go into the ring also makes the hair stand up. It is a good idea to keep your animal in the shade or under a light blanket while waiting.

Thoroughbred and quarter-horse types usually have their manes and tails pulled or roached with clippers. Manes can be from 6 to 12 inches long, and tails should be about hock length. When pulling, take only a few of the longest hairs at a time and jerk sharply. Do not pull

slowly. When quarter-horses are shown with roached manes, the forelock and a small wisp of mane over their withers are left at about 4 to 6 inches long.

For a neater appearance, you may trim the short hairs around the muzzle and chin and the fuzz on the inside and outside edges of the ears, either with small electric clippers or hand shears. A path for the bridle and halter immediately behind the ears often is trimmed also. Trim some of the long hair from the legs and fetlocks and around the coronary band. Oiling the coat is not acceptable. Mild bleach solution can take stains from white or light-colored hair.

A plain leather halter and a leather lead strap with a metal chain are the best equipment for showing your horse in hand. However, any simple halter and rope, or a plain bridle, can be used. Avoid showy or flashy outfits for halter classes.

SHOWING YOUR HORSE

Horse showmanship is just as much a skill as showing other livestock. Show off your horse's best points and hide the worst. Pay attention to your horse at all times. Do not get between the judge and the horse. It is all right to try to get a favorable position in the ring, but remember good manners and sportsmanship. Treat your fellow contestants as you like to be treated.

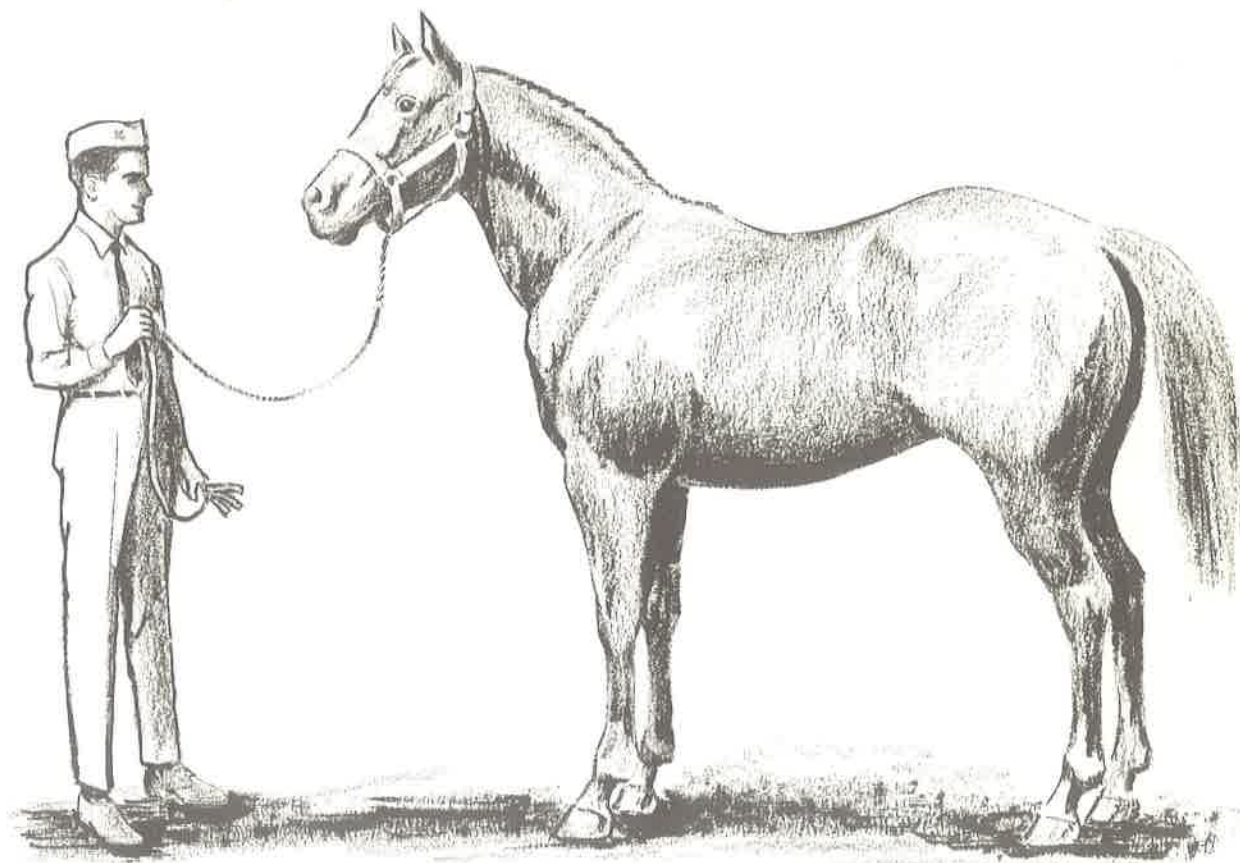
Lead your animal from his left side. Walk slightly behind his head. Hold the lead strap about 18 inches from his head with your right hand. The remaining lead strap or rope should be folded neatly and may be carried in either hand. Keep him alert but with the head in a natural position.

Utility breeds should stand with all four feet squarely under them, with head and neck extending forward almost level with the body. Saddlebreds, walking horses, and Shetland ponies should stand slightly extended, but not spread so far that they show a weakness in their back. The head and neck should be held high. Some individuals of the utility breeds show to greater advantage when they are not standing perfectly square.

If the ring is not completely level, be sure that the front end of the horse is always higher than the rear. Always know where the judge is. Never let your body obstruct his view. Get your animal in position and ready for the judge before he looks at him, not during his inspection. Step aside if the judge wants to make a

front inspection. Turn your animal's head slightly in the direction of the same side handled by the judge. If horses are lined up head to tail, allow enough room between the horse in front of you for the judge to pass between animals without danger of being kicked.

When the judge asks that the horse be walked and trotted, go directly away from the judge, stop your horse momentarily before turning to the right, and return directly toward him. Stay to one side to give him an unobstructed view of the horse in action. Keep your body at right angles to your horse. Move parallel with the horse and hold the lead in the right hand about 18 inches from the halter. Don't look back. Always turn to the right, pushing your horse around the turn. Don't pull.



EXPLANATION OF SCORECARD

JUNIOR HORSE SHOWMANSHIP

POINTS

A. Appearance of Animal

1. Condition and thriftiness should show normal growth, neither too fat nor too thin
2. Grooming
 - a. Hair should be properly groomed, and the hide soft and pliable.
 - b. Hoofs should be trimmed and shaped to enable animal to walk and stand naturally, or properly shod and polished.
 - c. Ears, tail, mane, legs and elsewhere should be clipped as needed.
 - d. If entire body is to be clipped, do it well in advance of the show.
3. Cleanliness
 - a. Hair, tail and mane should be clean and free of stains.
 - b. Hide, ears, nostrils and dock should be free of dirt, and legs and feet clean.
 - c. Halter and lead strap or rope should be clean, neat and workmanlike.

B. Appearance of Exhibitor

Clothes and person should be neat and clean. Wear white shirt and white trousers or skirt, 4-H hats and neckties or 4-H collar and cuffs.

C. Showing Animal in the Ring

1. Moving or leading
 - a. Enter leading the animal at normal walk around the ring in a clockwise direction walking slightly behind the head on the left side, holding the lead strap (or rope) with the right hand about 18 inches from the halter with the strap neatly, but naturally (not necessarily coiled), gathered in either hand.
 - b. Animal should lead readily and respond quickly.

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15	50

- c. Halter should be of right type, properly fitted and correctly placed on animal. A leather halter with leather lead strap is desirable but not necessary.
- d. Lead slowly with animal's head held to look alert, stylish, and for attractive carriage and graceful walk.
- e. When you are asked by the judge to show the action of the animal at the walk and trot, lead horse in a straight line away from and back to the judge. After leading animal away from judge, stop momentarily, and then turn in a clockwise direction before coming back.

2. Posing

- a. When posing and showing your horse, stay on the animal's left side or left front and stand facing at an angle where you can see the position of feet and topline.
- b. Pose your horse with its feet placed as squarely under him as possible.
- c. Don't crowd the exhibitor next to you. Don't leave enough space for another animal when you lead into a side-by-side position, but leave enough room for the judge to walk between horses.
- d. When judge requests that positions be changed, do not disturb other horses in the class. Do not lead your horse between the judge and a horse he is observing.
- e. Do the showing with the halter lead strap, and do not step on animal's feet to move them. Do not use crop or stick for moving the horse.
- f. Move your horse forward and backward by a slight pull on the lead strap. Don't wrestle your horse to move him.
- g. When judge is observing your horse, let the horse stand if he is posed reasonably well.

15

3. Show Animal to Best Advantage

10

Quickly recognize the conformation faults of the animal you are leading and show him in such a manner as to overcome them.

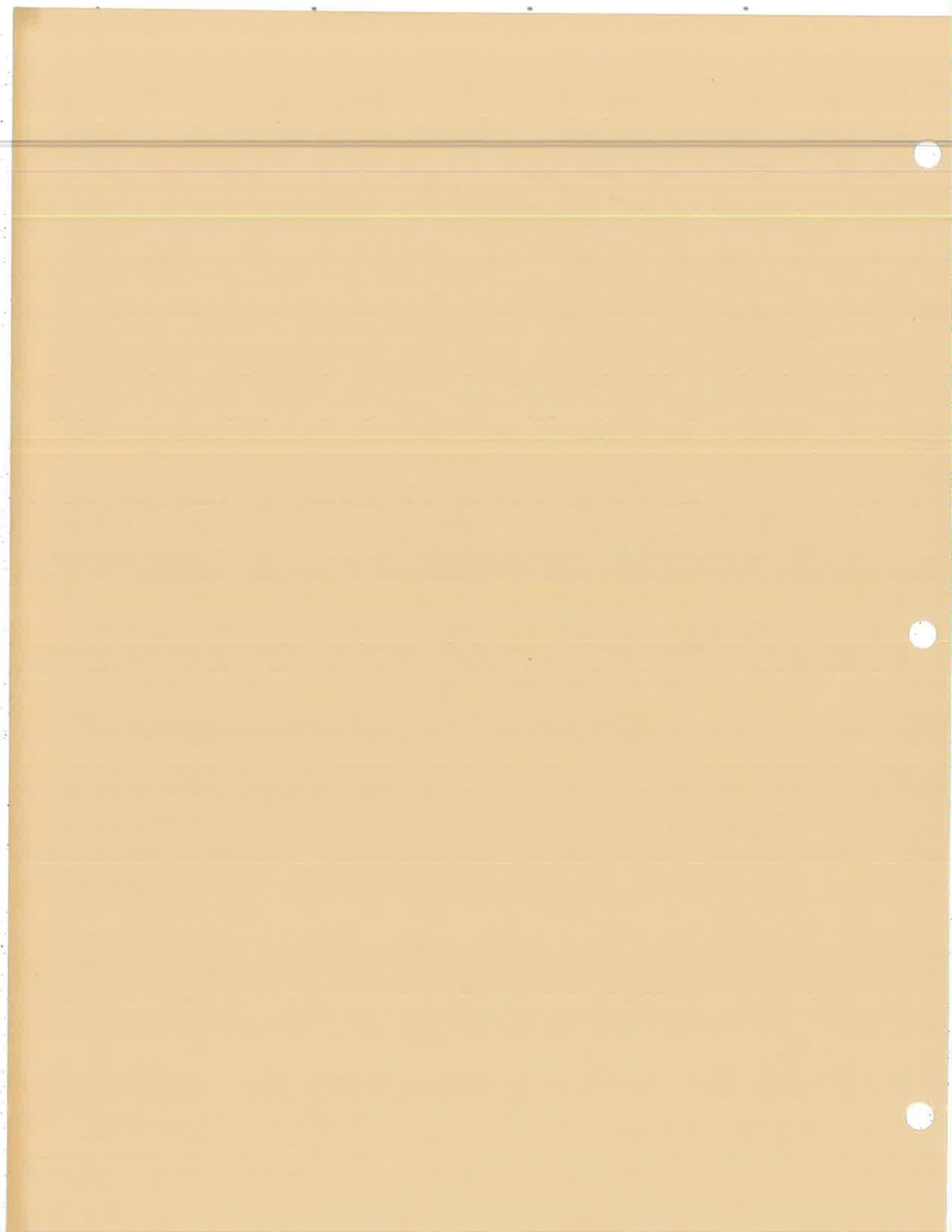
4. Poise, Alertness, and Attitude

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- a. Keep an eye on your animal and be aware of the position of the judge at all times. Do not be distracted by persons and things outside the ring.
- b. Show animal at all times and not yourself.
- c. Respond rapidly to requests from the judge and officials.
- d. Be courteous and sportsmanlike at all times.
- e. Keep showing until the entire class has been placed and the judge has given his reasons.

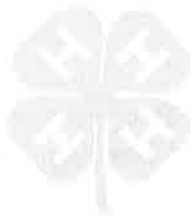
TOTAL

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4-H LIGHT HORSE

PROJECT



OUTLINE

In the 4-H Light Horse Project you will have an opportunity to learn about the selection, management, and training of horses. As you develop skills and knowledge, you will be encouraged to assume leadership in directing younger members. You may wish to carry other 4-H projects in addition to the Horse Project.

To enroll in the 4-H Light Horse Project, you must:

- Own a horse or foal. No member can do justice to his project if ownership is uncertain. A longtime lease will satisfy the ownership requirement.
- Assume the responsibility for the feeding and care of your animals, and the care of the stable and equipment.
- Be supervised by a 4-H Horse Project leader.

There are two units included in the Light Horse Project. Members may enroll in one or both of these:

HORSE UNIT: (This includes all horses beyond weaning age that are not in the Breeding Unit.)

Members will learn about: safety around horses; parts of the horse; feeding the horse; keeping the horse healthy; grooming; care of the feet; handling the horse; use and care of equipment; body colors, color patterns, and body marking; selection, conformation, and judging; fitting and showmanship.

Members owning fillies and colts of weaning age will learn about halter breaking, tying, and handling young horses, as well as feeding, care, and safety. A 4-H Club leader who is an experienced horseman must supervise the training of these young horses. There is no requirement for registration or conformation in the Horse Unit, but we strongly recommend that members register colts and fillies of weaning age.

BREEDING UNIT: Members will learn about: safe handling of horses; feeding; care and management; and judging. Mares used in this project should be of good breeding (purebred preferred) and of good conformation. The mare must be bred to a registered stallion. If the stallion is kept for breeding (stallions are included in the Breeding Unit), he must be registered. Both breeding animals should be serviceably sound.

Advanced members can learn such additional skills and knowledge as their 4-H Horse Project leaders approve and have time to teach. These may include trail riding, English riding, riding gaited stock, jumping, drill and parade riding, roping, cutting, reining, judging and showing, light driving, origin of breeds, characteristics and uses of breeds.

Co-operative Extension work in Agriculture and Home Economics, College of Agriculture,
University of California, and United States Department of Agriculture co-operating.
Distributed in furtherance of the Acts of Congress of May 8, and June 30, 1914.
George B. Alcorn, Director, California Agricultural Extension Service.

JUNE 1966

HORSE BEHAVIOR

*The author is Reuben Albaugh, Extension Animal Scientist Emeritus,
University of California, Davis.*

Introduction

Horse owners, trainers, riders, and others closely associated with livestock have long known a great deal about equine behavior traits, but not until comparatively recently has this information been systematically recorded. Both heredity and environment determine the behavior patterns of animals. Conditioning of a foal's behavior by its mother, and by reactions to other horses, is part of the foal's environment, as is the training it receives from its mother and trainer.

What a horse sees; its sense of smell, hearing, and reactions to movement, noises, and physical objects; and its ability to learn and remember—all these are important to those who train, ride, and handle horses. Without this knowledge, horse owners and trainers could employ training methods and use equipment that would impair the horse's performance.

Early writers claimed that feral (wild) horses had superb vision, a keen sense of smell, and remarkable hearing. These traits, coupled with speed, enabled the horse to escape most of its animal (wolf and cougar) and human enemies.

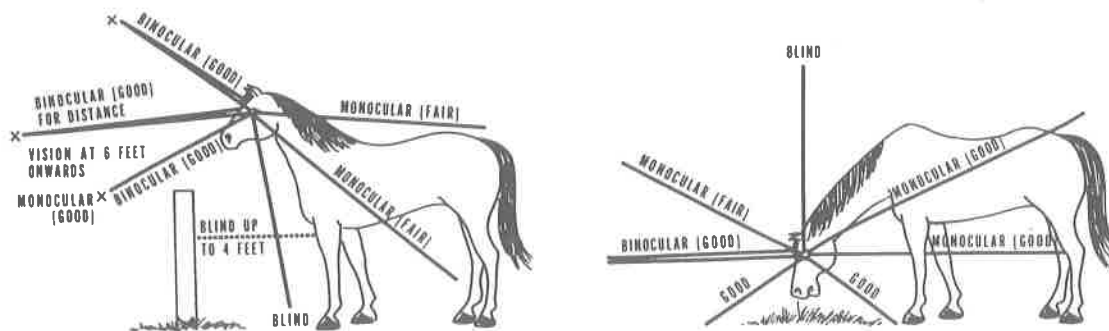


Diagram of a horse's vision ability: standing and grazing. The type and degree of a horse's vision depends upon the position of its head and the location of the object viewed. (From "Vision in the Animal World" by R. H. Smythe.)

COOPERATIVE EXTENSION UNIVERSITY OF CALIFORNIA
DIVISION OF AGRICULTURE AND NATURAL RESOURCES

BEHAVIOR

Vision

It is believed that horse's eyes do not have the variable focus of the human eye. Objects at different distances cannot be brought into focus as quickly as with the human eye, and the horse must move its head to focus on distant objects. Some parts of the retina are closer to the lens than other parts. Therefore, in order to see clearly at long distances, the horse must raise its head (Smythe 1975). Some horses are said to be nearsighted, and studies indicate that 20 to 40 percent may be so afflicted. This may be one reason some horses "shy" at nearby objects.

When its head is held at shoulder height, a horse can see an object directly in front of it provided the object is at least 4 feet away. When the horse lowers its head, it can see around its feet. For this reason, we say "Give the horse its head and ride with a loose rein when negotiating rough terrain." Because horses cannot see objects less than 4 feet directly in front or directly behind them, it is advisable to speak to the animal when approaching from front or rear.

Horses' eyes are positioned so they can see in front with both eyes (binocular vision), or to either side (monocular vision). The horse's angle of vision is 215 degrees for each eye. Because of this ability, some race horses perform better when their bridles are equipped with blinders to block out visual stimulation from the sides. Horses can maintain distance alertness and at the same time see nearby objects. This enables them to detect far-off enemies even while grazing. For all practical purposes, horses are color blind (Smythe 1975). However, colors may differ in brightness, which explains the horse's discriminatory ability in this respect. They also have good night vision.

Physical Sensitivity

Horses can hear sounds of higher frequency than the human ear can detect and can feel ground vibrations. Tactile innervation is found in most of a horse's body. The head, ears, lips, and flank are particularly sensitive. This is one reason it may be difficult to bridle a horse or examine its teeth. It is also why flank straps make horses buck harder.

A horse's sense of smell is highly developed and is used for investigating its environment. This is especially true with dam-foal relationships. The mare learns to recognize her foal by smell sooner than by sight. In training horses, it is well to allow the young horse to smell the blanket and saddle before saddling. The stallion uses smell to determine if the mare is in estrus. Smell receptors can be damaged by viruses, dust, and other irritants. Since these receptors are not replaced, the horse's sense of smell diminishes with age.

Sexual Behavior

Mares in estrus may urinate often and wink the lips of the vulva. If a stallion is present, the estrous mare may swing her rear quarters toward him, elevate her tail, squat, urinate, and wink, and then stand in place when mounted. Mares not in heat will resist the advance of the stallion with squealing and kicking.

The sight of a mare releases certain courtship behaviors in the stallion. He will snort, and on reaching the mare, smell her external genital tract, her voided urine, and her groin area. He may then extend his neck with an up-turned lip. This is known as the flehmen response. Before the stallion mounts, he will pinch the mare with his teeth in the loin-croup region. The erection of the stallion is usually slow, taking about 5 minutes. After mounting, copulation may occur in a few seconds or up to 5 minutes.

Behavior of the Foal

Shortly after birth, the foal uses its ears, eyes, and nose to investigate its surroundings. It begins to show interest in its dam in the first hour of life, and the first suckling usually occurs in the second hour. When 2 hours old, the foal can follow its mother around, staying close to her side when it is alarmed (a strong bond will exist between mother and foal often into adulthood). When about 12 hours old, the foal can use its legs and tail to combat insects. Foals show signs of playfulness in their

first week of life, and will also start grazing. At first they may graze only 3 to 5 minutes at a time, but when 1 year old the average grazing period is 44 minutes. Much of the new foal's life is spent in sleep, either standing or lying down. Foals and adult horses have a unique ability to "lock" their legs into position for sleep while standing. This is made possible by a system of ligaments, which have the ability to take the weight off the muscles.

Abnormal Behavior

Abnormal behavior includes bucking, kicking, halter pulling, cribbing, striking, shying, and so forth.

Sleeping Habits

A stabled horse will spend approximately 11 percent of each day lying down, sometimes in a deep sleep, for as long as 60 minutes at a time. When a horse lies down or stands up, it does so front first. In a 5-year study conducted in France, stallions in boxed stalls spent about 81 percent of each 24-hour period in a wakeful state, and 8 percent in a semialert condition with their eyes partly closed (22 of the 24 hours were spent standing and 2 hours lying down). The horses slept deeply for not over 11 percent of each 24-hour period, and thus it appears that horses do not require much deep sleep. Some authorities believe that horses may sleep as much as 7 hours per day in short, irregular intervals, usually during the warm part of the day.

Foraging and Ingestive Behavior

Horses can tolerate rough terrain and scarcity of food and water. They will paw for feed in deep snow, and break ice for drinking water, thus surviving where other livestock would perish. Horses prefer grass when it is available and are fond of acorns, but will also eat buds of woody plants. They have been known to paw up roots of plants; they may also feed on sedge or rushes in the water of lakes 2- to 4-feet deep. Indians and fur traders often wintered their horses on the bark of cottonwoods. During severe winters, range horses will consume each other's manes and tails in order to survive. Horses on the range will travel up to 10 miles to water. Free-ranging horses will travel many miles to water and will use sheltered areas for protection at night or in bad weather.

Horses drink between 5 and 15 gallons of water a day, depending on temperatures, and type and dryness of feed consumed. Feral horses usually drink once a day, but working horses may drink several times during the day.

Horses on pasture or range often use certain areas for defecation. Feral stallions will defecate on the feces of other horses to form "stud piles." No feces or urine are deposited in or near drinking water.

Grooming Behavior

Horses groom each other by "combing" the hair with their teeth. They groom themselves by rolling and by using their teeth and feet. After rolling, the horse shakes itself. Horses prefer to roll in light, sandy soil if it is available. On hot days, fully-packed horses have been known to roll in shallow lakes.

Social Behavior

Feral horses develop social units consisting of one to three mares and their offsprings. An adult stallion may accompany this group; however, a stallion may have a harem of as many as 12 mares. The stallion alerts his harem to danger by elevating his head high and making loud snorts. When feral horses are disturbed, a mare usually leads the herd while the stallion takes a position farther to the rear. He may herd and drive the group. Bachelor stallions usually run in groups of six or more, but also may run alone out of the range of the ruling stud near a heterosexual band. Cast-out stallions are often called "dog soldiers."



The white mare to the right demonstrates the dominant trait—ears laid back, threatening the other horse.



Feral stallions fight viciously—kicking, striking and biting.

Herds of feral horses share feeding and watering sites, but much space is maintained between the groups. Dominance occurs not only between individuals, but also between groups. Larger and older horses, usually adult males, are the most dominant. Offsprings of high-ranking mares tend to be dominant also.

Aggressive Behavior

Horses sometimes fight, but a severe battle between the same two horses is seldom repeated. When two feral stallions fight, they bite, strike with their front feet, and kick; the bites can remove whole pieces of hide and flesh, and fights may result in the death of one of the horses.

Communication and Memory

When a horse is disturbed, or is threatened, its ears are usually laid back and its nostrils are dilated—sometimes its teeth are bared. When the horse's ears are pricked up, it indicates interest in some object (see photo). For example, when a cutting horse starts to work, its ears are pricked up. But when the horse being cut "turns," its ears are back, and the animal may even bite. Horses in a close race usually hold their ears back.

A horse can communicate by sound. Very often when you approach a horse to feed it, it will nicker in anticipation. An aggressive stallion courting a mare will make forceful sounds like blowing and snorting. A mare protecting her foal will make a low nicker. A range mare with a new foal will, if afraid or suspicious, give a loud or sharp snort. (This scares the foal and apparently conditions it to snort during similar encounters it may have later.) Neighs and whinnies are emitted when horses become separated (indicating distress), or they can be greeting signals. When a horse snorts, it is usually alarmed about something. Horses can express pain by groaning or changing their posture, or by such facial movements as closing their eyes, moving their lips, and grinding their teeth. When horses are restricted (as in holding a tight rein) to forward motion, they may start pawing.

Horses usually are well-oriented in their environment. Their ability to recognize and remember odors, sights, and sounds enables them to return to their home range from many miles away. Even in a blizzard a horse can be trusted to carry its rider home. The horse's memory, plus ability to learn and respond to directions, have encouraged its domestication.



An expert rider and a well-trained cutting horse. Note position of the horse's feet and ears. The loose rein indicates that the horse is cutting the beef steer on its own.

TRAINING

Training

A horse is taught commands by simple conditioning during which punishment is avoided, and rewards, such as sugar or a pat, are given for a correct response. The horse must learn to associate certain commands with the proper responses, and lessons should be repeated until mastered. The trainer's hands, voice, and legs are used to express commands. Training the horse in the proper environment is important; 5 to 15 minutes is usually long enough for a beginning training lesson. The animal should be comfortable and attentive; distracting stimuli should be kept to a minimum. The horse learns faster if its first lessons are simple.

Avoid vague commands, force, and boredom. Boredom can lead the horse into bad habits and allow it to become apprehensive about what is coming next in the training session. For example, in training a bridle horse to do monotonous work, stopping and turning the horse day after day will soon cause it to become bored with the routine. Pulling hard on the reins and improper biting of the horse in early training may cause what is called "cold jaw" (unresponsiveness to pressure of bit), or "switch tail" (tail movement indicating displeasure).

Tools for Learning

The tools a horse uses for learning are sight, smell, hearing, touch, and taste. The following explores the ways these tools function in horse training.

Sight

The horse's wide vision can cause problems in training since a horse may see objects that the rider does not see. Therefore, in training a young horse, a round corral with

solid sides should be used wherever possible to keep distractions to a minimum. Outside training can be practiced at a later date.

Smell

Some horse owners believe that a horse will react adversely to the odor of a fearful person. Allowing the horse to smell the trainer before saddling or loading is recommended. The horse's keen sense of smell can also present a problem when feeding medicated feed. Placing a little vaseline around the nostrils can interfere with the horse's sense of smell long enough for it to eat the feed.

Hearing

Horses can hear both high- and low-frequency sound waves better than humans. In training a horse, therefore, speak in a quiet, pleasant voice. The horse's ear is controlled by ten muscles and it can be turned 180 degrees to the front, side, or rear. The ears can be individually turned in different directions at the same time, enabling the horse to focus on two different sounds at the same time.

Touch

This sensation is divided into four categories: pressure, pain, warmth, and cold. Horses are sensitive to touch in areas of the mouth, lower parts of the ears, the legs, flank, neck, shoulders, and tail. Therefore, during training, it is important to handle or touch these areas with care. Many lessons taught in training, such as reining, stopping, changing leads, and so on, are learned through tactile stimulation. Patting a horse after it has accomplished a difficult task can serve as a reward.

Taste

Although not as important as hearing and sight, the sense of taste can assist the horse in learning about its environment. There are four basic taste sensations—sweet, sour, salty, and bitter. In the horse, sweet and salty receptors are on the front of the tongue. Sour receptors are located on the sides of the tongue, and bitter receptors are on the back of the tongue. Horses, especially young ones, are very curious. Many of their early learning experiences occur through tasting. Knowledge of the different tastes can be put to use during training. For example, rubbing the bit with a small amount of molasses before bridling will make the job easier. Such food rewards can assist in the training process and help to foster trust between horse and trainer.

From this brief review of tools for learning, it is obvious that the trainer must have knowledge and expertise in equine behavior if he or she is to be successful. It is well to remember that the horse is evolutionally a prey animal. Its senses are geared for safety through flight. The trainer must overcome this flight tendency by instilling confidence and trust through the use of proper training methods based on knowledge of horse behavior.

Keep in mind that horses remember the bad habits as well as the good habits they acquire while being trained. Examples of good habits are: head down, soft mouth (responsiveness to commands), and other ready responses to such commands as reining, stopping, and mounting. Examples of bad habits are: tail switching, hard mouth (same as cold jaw), high-headedness, and open mouth.

Basic Training

Some basic training methods include the following:

1. Be firm, but gentle.
2. Be quiet, move slowly, and avoid any excitement.
3. Control your temper.
4. Teach one lesson at a time.
5. Always end the lesson on a good note.
6. Do not overwork the horse. It will become tired and not respond to your training.
7. Start training at an early age. Young horses learn faster and there is less danger of injury to the trainer and horse.

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Acknowledgment

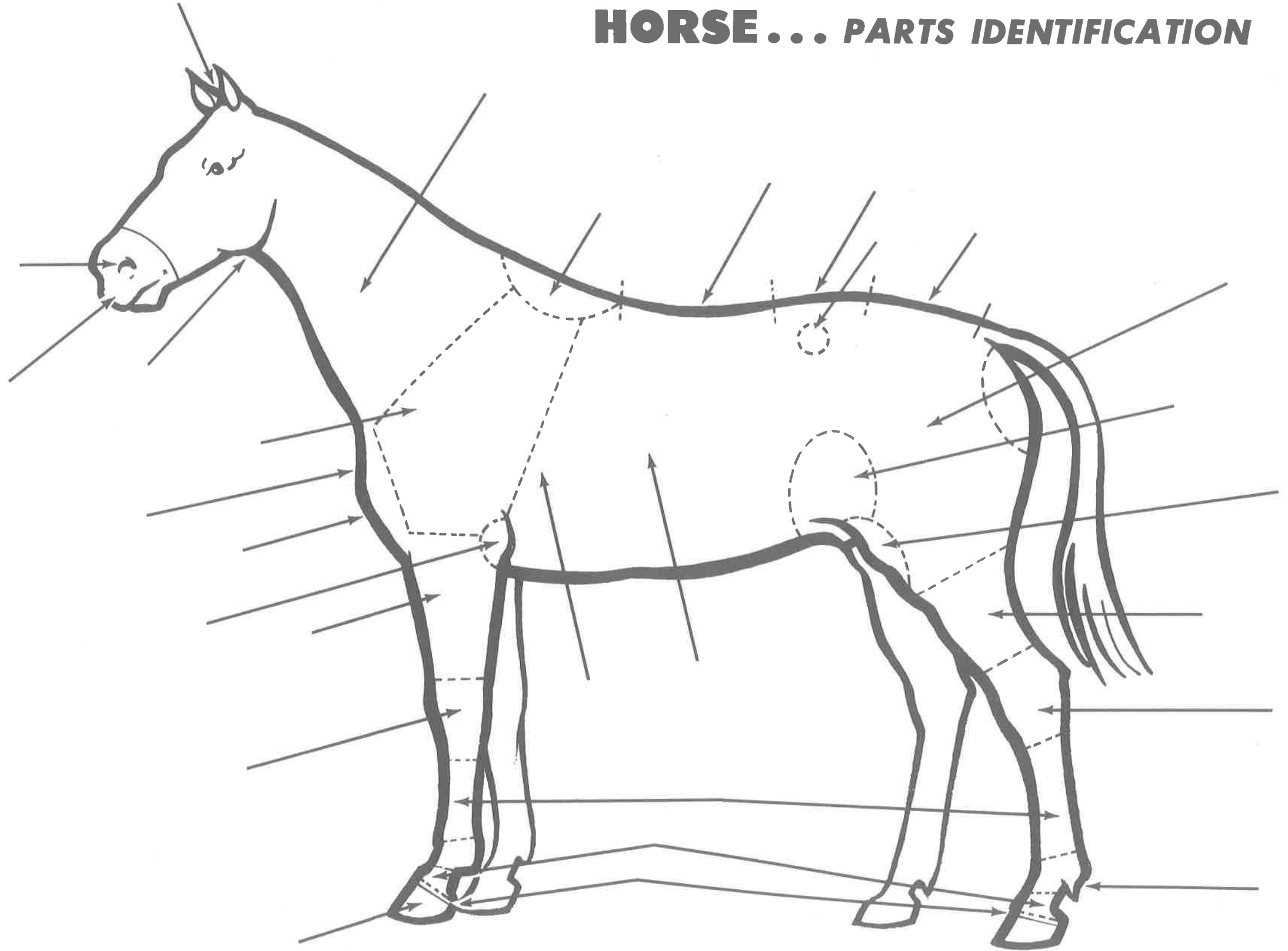
The author wishes to thank Dr. Edward O. Price, Professor, Animal Science, University of California, Davis, for reviewing the manuscript.

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HORSE... PARTS IDENTIFICATION

- POLL** **MUZZLE**
- THROAT LATCH**
- NECK** **SHOULDER**
- POINT OF SHOULDER**
- CHEST** **FOREARM**
- ELBOW** **KNEE**
- HOOF** **BARREL**
- HEART GIRTH**
- CANNON** **PASTERN**
- CORONET** **WITHERS**
- BACK** **LOIN**
- POINT OF HIP**
- RUMP** **THIGH** **FLANK**
- STIFLE** **GASKIN**
- HOCK** **FETLOCK**
- NOSTRIL**

Cut off on this line.



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Issued in furtherance of Cooperative Extension work, Acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture. Kenneth R. Farrell, Director of Cooperative Extension, University of California.

7m-rep-11/88-HS/ME



**COOPERATIVE EXTENSION
UNIVERSITY OF CALIFORNIA**

MEMBER'S SKILLS AND KNOWLEDGE REPORT BREEDING UNIT

1st PHASE

THINGS I LEARNED ABOUT

MUCH SOME

1. Safety around horses _____
2. Feeding the mare and foal _____
3. Keeping the mare and foal healthy _____
4. Care of the mare's and foal's feet _____
5. Preparation for foaling time _____
6. Care of mare and foal at foaling through weaning time _____
7. Registration of stock—color and markings _____
8. Making fair entries _____
9. Exhibiting at horse show _____
10. Transporting the mare and foal _____
11. Selection of breeding stock _____
12. Gestation period of mares _____
13. Use of creep feeder _____
14. Stable care _____
15. Stable vices _____
16. Gentling and handling the foal _____
17. Teaching the foal to lead _____
18. Other: _____

THINGS I LEARNED TO DO

WELL FAIR

1. To prepare rations _____
2. To care for mare's feet _____
3. To prepare foaling quarters _____
4. To observe signs of foaling time _____
5. To handle the newborn foal _____
6. To build a creep feeder _____
7. To register the foal _____
8. To wean the foal _____
9. To train the foal to tie, lead, stand and trailer load _____
10. To exhibit the foal _____
11. To select breeding stock _____
12. To keep breeding records _____
13. To gentle and handle the foal _____
14. Other: _____

THINGS I TAUGHT MY MARE AND FOAL

WELL FAIR

1. To tie, lead and stand _____
2. To trailer load _____
3. To show at halter _____
4. To pick up feet _____
5. Other: _____

2d PHASE

1. Advanced work on items "Learned About" listed above (1st Phase) _____
2. Control: internal and external parasites _____
3. Types of horses according to use _____
4. Conformation and judging _____
5. Marketing of stock _____
6. Acquainting the yearling with bit and bridle _____
7. Ground driving the yearling _____
8. Other: _____

1. To judge foal and yearling classes _____
2. To train the yearling in the use of bridle and saddle _____
3. To ground drive the yearling _____
4. To help younger members _____
5. To do advanced work on items "Learned To Do" listed above (1st Phase) _____

1. Do advanced work on items "Taught My Mare and Foal" (1st Phase) _____
2. To ground drive _____
3. Other: _____

Member's Skills and Knowledge Report
Breeding Unit - continued

3D PHASE

THINGS I LEARNED ABOUT

	<u>MUCH</u>	<u>SOME</u>
1. Advanced work on items "Learned About" (1st and 2d Phases)	_____	_____
2. Breeding habits of mares	_____	_____
3. Breeding practices—inbreeding, line breeding, out-breeding	_____	_____
4. Principles of heredity	_____	_____
5. Farm management—breeding record	_____	_____
6. Use of the lunge line and ponying	_____	_____
7. Altering the colt	_____	_____
8. Saddling the two-year old	_____	_____
9. Mounting and dismounting	_____	_____
10. Precautions in the handling of stud colts	_____	_____
11. Other: _____	_____	_____

THINGS I LEARNED TO DO

	<u>WELL</u>	<u>FAIR</u>
1. Do advanced work on items "Learned To Do" (1st and 2d Phases)	_____	_____
2. To judge foal, yearling and two-year-old classes	_____	_____
3. To use the lunge line and ponying	_____	_____
4. To train the yearling in the use of bridle and saddle	_____	_____
5. To mount and dismount	_____	_____
6. Other: _____	_____	_____

THINGS I TAUGHT MY MARE AND FOAL

	<u>WELL</u>	<u>FAIR</u>
1. Advanced work on items "Taught My Mare and Foal" (1st and 2d Phases)	_____	_____
2. To lunge and pony	_____	_____
3. To perform under saddle	_____	_____
4. Other: _____	_____	_____

Approved: _____

4-H Horse Project Leader

Member's Skills and Knowledge Report
4-H Horse Unit—continued

3d PHASE

THINGS I LEARNED ABOUT

MUCH SOME

THINGS I LEARNED TO DO

WELL FAIR

THINGS I TAUGHT MY HORSE

WELL FAIR

1. Characteristics and uses of the various breeds _____
2. Review of common unsoundnesses of horses _____
3. Recognition and correction of bad habits or vices _____
4. Conformation judging and selection of horse (This should be the main topic for the year and should be discussed right along with the topics listed above.) _____
5. Helping younger members _____
6. Horses' gaits _____

1. To be thoroughly familiar with use of all aids _____
2. To demonstrate the use of the aids _____
3. To use aids to lengthen and shorten stride of the horse at all gaits _____
4. To serve as Junior Leader _____
5. To judge horse show classes _____
6. To show in horse show classes _____
7. Other: _____

1. To negotiate obstacles _____
2. To maintain even gaits on a loose rein _____
3. To side step and open gates properly _____
4. Other: _____

4th PHASE

1. Conformation judging _____
2. Rules for performance judging _____

1. To judge performance classes _____
2. To serve as a Junior Leader _____
3. To develop Junior Judges _____

1. To jump small obstacles _____
2. Other: _____

Approved _____

4-H Horse Project Leader _____

MEMBER'S SKILLS AND KNOWLEDGE REPORT

4-H HORSE UNIT

1st PHASE

<u>THINGS I LEARNED ABOUT</u>			<u>THINGS I LEARNED TO DO</u>			<u>THINGS I TAUGHT MY HORSE</u>		
	<u>MUCH</u>	<u>SOME</u>		<u>WELL</u>	<u>FAIR</u>		<u>WELL</u>	<u>FAIR</u>
1. Safety around horses	_____	_____	1. To use natural aids—hands, legs, voice, body weight	_____	_____	1. To lead at halter	_____	_____
2. Parts of the horse	_____	_____	2. Saddling, bridling; mounting and dismounting	_____	_____	2. To stand for mounting and dismounting	_____	_____
3. Feeding the horse	_____	_____	3. To have correct position in saddle—seat and hands	_____	_____	3. To walk, trot, and canter on correct lead both ways of the ring	_____	_____
4. Keeping the horse healthy	_____	_____	4. To groom my horse	_____	_____	4. Other: _____	_____	_____
5. Grooming	_____	_____	5. To care for the horse's feet	_____	_____		_____	_____
6. Care of the horse's feet	_____	_____	6. To show my horse	_____	_____		_____	_____
7. Handling the horse	_____	_____	7. Other: _____	_____	_____		_____	_____
8. Use and care of equipment	_____	_____	<u>2d PHASE</u>					
9. Fitting and showmanship	_____	_____	1. To develop the use of the natural aids with particular attention to hands and legs	_____	_____	1. The figure eight	_____	_____
10. Other: _____	_____	_____	2. To make my horse respond to the use of aids	_____	_____	2. Proper change of leads	_____	_____
			3. To circle a horse on a true track	_____	_____	3. Proper reining	_____	_____
			4. To practice on Trail and Pleasure Class	_____	_____	4. Proper stopping	_____	_____
			5. To observe at least one horse show and attempt to judge some of the classes	_____	_____	5. Quick response to aids	_____	_____
			6. To be ready to show in a horse show class	_____	_____	6. Trailer load	_____	_____
			7. Other: _____	_____	_____	7. Other: _____	_____	_____
				_____	_____		_____	_____
				_____	_____		_____	_____
				_____	_____		_____	_____
				_____	_____		_____	_____
				_____	_____		_____	_____
				_____	_____		_____	_____

MEMBER'S SKILLS AND KNOWLEDGE REPORT
4-H HORSE UNIT

1st PHASE

THINGS I LEARNED ABOUT

THINGS I LEARNED TO DO

THINGS I TAUGHT MY HORSE

	<u>MUCH</u>	<u>SOME</u>	<u>WELL</u>	<u>FAIR</u>	<u>WELL</u>	<u>FAIR</u>
1. Safety around horses	_____	_____	_____	_____	_____	_____
2. Parts of the horse	_____	_____	_____	_____	_____	_____
3. Feeding the horse	_____	_____	_____	_____	_____	_____
4. Keeping the horse healthy	_____	_____	_____	_____	_____	_____
5. Grooming	_____	_____	_____	_____	_____	_____
6. Care of the horse's feet	_____	_____	_____	_____	_____	_____
7. Handling the horse	_____	_____	_____	_____	_____	_____
8. Use and care of equipment	_____	_____	_____	_____	_____	_____
9. Fitting and showmanship	_____	_____	_____	_____	_____	_____
10. Other: _____	_____	_____	_____	_____	_____	_____

2d PHASE

1. Colors and markings	_____	_____	1. To develop the use of the natural aids with particular attention to hands and legs	_____	_____	1. The figure eight	_____	_____
2. Age determination	_____	_____	2. To make my horse respond to the use of aids	_____	_____	2. Proper change of leads	_____	_____
3. Common unsoundnesses of horses	_____	_____	3. To circle a horse on a true track	_____	_____	3. Proper reining	_____	_____
4. Origin and development of horses	_____	_____	4. To practice on Trail and Pleasure Class	_____	_____	4. Proper stopping	_____	_____
5. Breeds of light horses	_____	_____	5. To observe at least one horse show and attempt to judge some of the classes	_____	_____	5. Quick response to aids	_____	_____
6. Review of safety around horses	_____	_____	6. To be ready to show in a horse show class	_____	_____	6. Trailer load	_____	_____
7. Review of use and care of equipment	_____	_____	7. Other: _____	_____	_____	7. Other: _____	_____	_____
8. Review of fitting and showmanship	_____	_____		_____	_____		_____	_____
9. Introduction to conformation and judging	_____	_____		_____	_____		_____	_____
10. Helping younger members	_____	_____		_____	_____		_____	_____
11. Other: _____	_____	_____		_____	_____		_____	_____

**Member's Skills and Knowledge Report
4-H Horse Unit—continued**

3d PHASE

<u>THINGS I LEARNED ABOUT</u>	<u>THINGS I LEARNED TO DO</u>	<u>WELL</u>	<u>FAIR</u>
	<u>THINGS I TAUGHT MY HORSE</u>	<u>WELL</u>	<u>FAIR</u>

- 1. Characteristics and uses of the various breeds _____
- 2. Review of common unsoundnesses of horses _____
- 3. Recognition and correction of bad habits or vices _____
- 4. Conformation judging and selection of horse (This should be the main topic for the year and should be discussed right along with the topics listed above.) _____
- 5. Helping younger members _____
- 6. Horses' gaits _____

- 1. To be thoroughly familiar with use of all aids _____
- 2. To demonstrate the use of the aids _____
- 3. To use aids to lengthen and shorten stride of the horse at all gaits _____
- 4. To serve as Junior Leader _____
- 5. To judge horse show classes _____
- 6. To show in horse show classes _____
- 7. Other: _____

4th PHASE

- 1. Conformation judging _____
- 2. Rules for performance judging _____

- 1. To judge performance classes _____
- 2. To serve as a Junior Leader _____
- 3. To develop Junior Judges _____

- 1. To negotiate obstacles _____
- 2. To maintain even gaits on a loose rein _____
- 3. To side step and open gates properly _____
- 4. Other: _____

- 1. To jump small obstacles _____
- 2. Other: _____

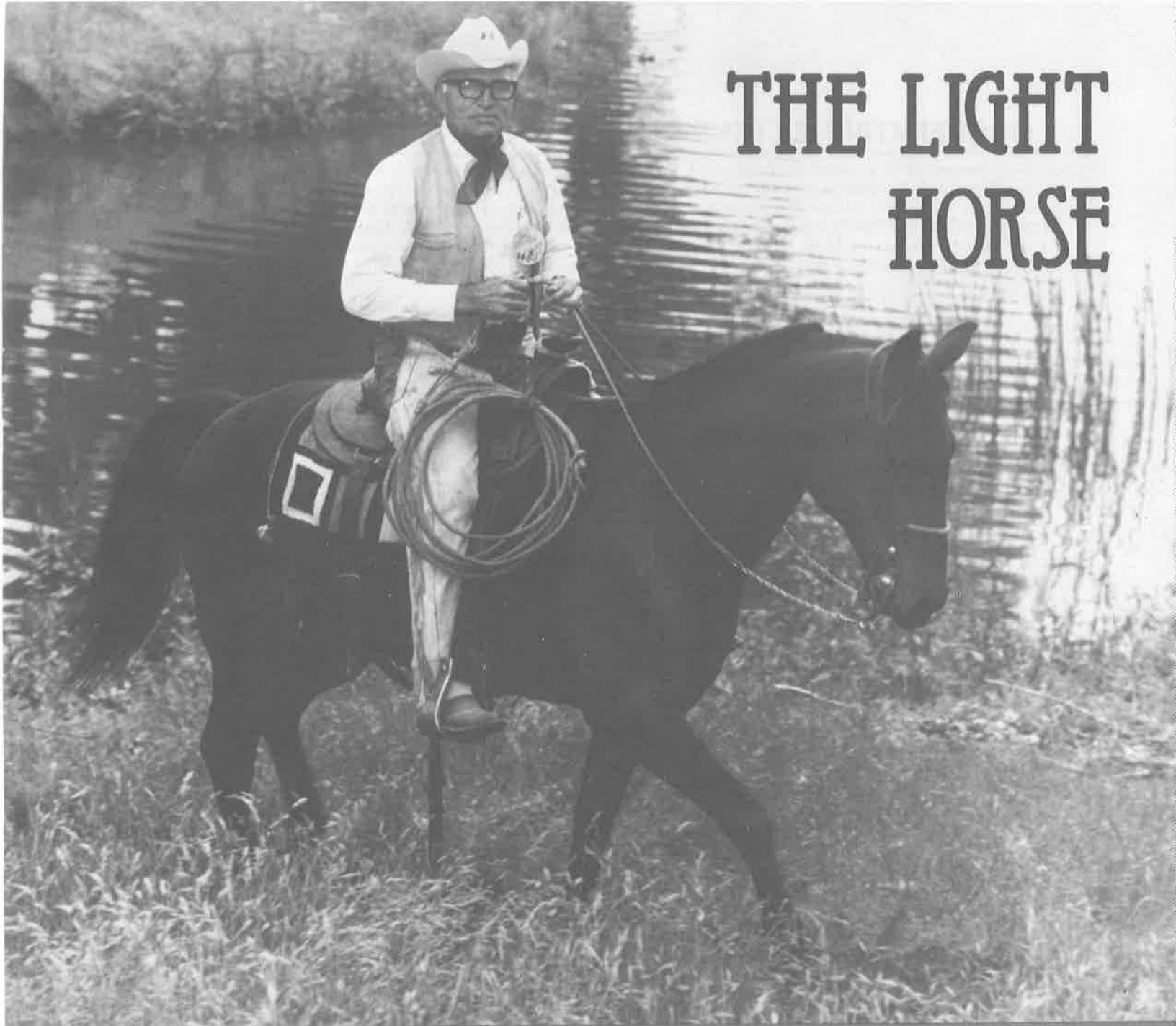
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4-H Horse Project Leader

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Issued in furtherance of Cooperative Extension work, Acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture. Kenneth R. Fairall, Director of Cooperative Extension, University of California.

THE LIGHT HORSE



Division of Agricultural Sciences
UNIVERSITY OF CALIFORNIA

REVISED MAY 1979

LEAFLET
2338

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CAUTION

LIVESTOCK PESTICIDE USE WARNING — READ THE LABEL

CAUTION

Pesticides and drugs are poisonous and must be used with caution. **READ** the label **CAREFULLY BEFORE** opening a container. Precautions and directions **MUST** be followed exactly. Special protective equipment (as indicated) must be used.

STORAGE: Keep all pesticides and drugs in original containers only. Store separately in a locked shed or area. Keep all pesticides and drugs out of the reach of children, unauthorized personnel, pets, and livestock. **DO NOT STORE** with foods, feeds or fertilizers. Post warning signs on storage areas for all chemicals, pesticides, and drugs.

USE: The suggestions given in this publication are based upon best current information. Follow directions. Measure accurately, to avoid residues exceeding established tolerances. Use exact amounts as indicated on the label, or lesser amounts as specified in this publication. Use a pesticide or drug only on animals listed on the label.

CONTAINER DISPOSAL: Consult your Agricultural Commissioner for correct procedures for rinsing and disposing of empty containers. Do not transport pesticides or drugs in vehicles with foods, feeds, clothing, or other materials, and never in a closed cab with the vehicle driver.

RESPONSIBILITY: The livestock owner is legally responsible for proper use of pesticides, including drift to other crops or properties, and for excessive residues. Pesticides should not be applied over streams, rivers, ponds, lakes, run-off irrigation or other aquatic areas, except where specific use for that purpose is intended.

PERMIT REQUIREMENTS: Many pesticides require a permit from the County Agricultural Commissioner for possession or use. Such compounds mentioned in this publication are marked with an asterisk (*).

ANIMAL INJURY: Certain pesticides or drugs may cause injury, or give less than optimum parasite control if used: (1) at the wrong animal age; (2) at the wrong time of year; (3) on animals under extreme stress or sick; (4) with the wrong formulation; (5) at excessive rates; or (6) in simultaneous use with incompatible materials. Read the label to be sure you are using the chemical properly.

PERSONAL SAFETY: Follow label directions exactly. Avoid splashing, spilling, leaks, spray drift or clothing contamination. Do **NOT** eat, smoke, drink, or chew while using pesticides. Provide for emergency medical care in advance.

Cover: Photograph courtesy of the late Carl L. Garrison.

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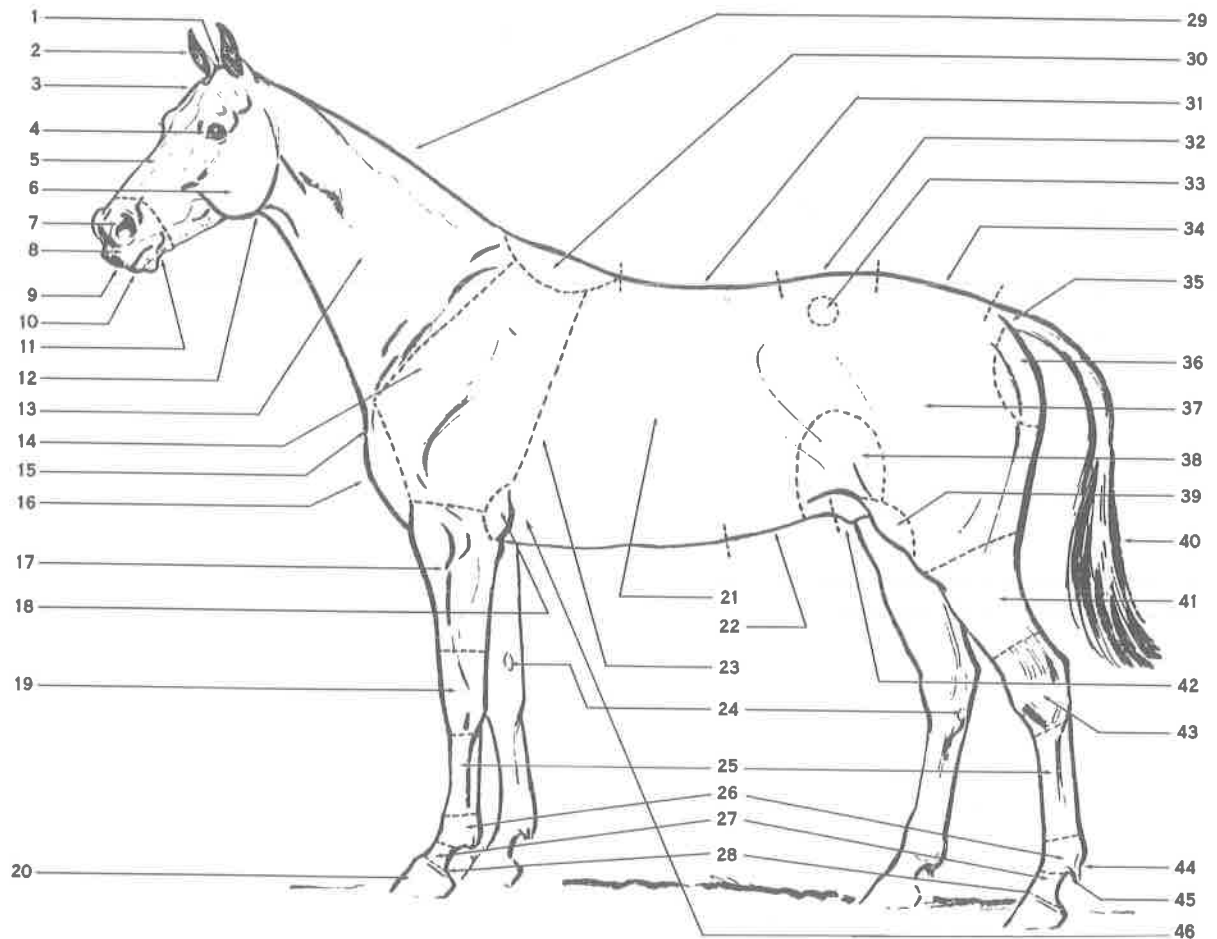
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*The authors acknowledge the assistance of: Gordon Wright, author, **Learning to Ride, Hunt, and Show**, and The Jockey Club, New York City.*

Learning the Parts of the Horse



1. POLL
2. EAR
3. FOREHEAD
4. EYE
5. FACE
6. CHEEK
7. NOSTRIL
8. MUZZLE
9. UPPER LIP
10. LOWER LIP
11. CHIN GROOVE
12. THROAT LATCH
13. NECK
14. SHOULDER
15. POINT OF SHOULDER

16. CHEST
17. FOREARM
18. ELBOW
19. KNEE
20. HOOF
21. BARREL
22. ABDOMEN
23. HEART GIRTH
24. CHESTNUT
25. CANNON
26. FETLOCK JOINT
27. PASTERN
28. CORONET
29. CREST
30. WITHERS

31. BACK
32. LOIN
33. POINT OF HIP
34. RUMP OR CROUP
35. DOCK
36. BUTTOCK
37. THIGH
38. FLANK
39. STIFLE
40. TAIL
41. GASKIN OR SECOND THIGH
42. SHEATH (♂) UDDER (♀)
43. HOCK
44. FETLOCK
45. ERGOT
46. FOREFLANK

Feeding Your Horse

The amount and type of feed your horse requires will vary according to his weight and how you use and manage him. A successful feeding practice provides the basic feed requirements for body maintenance, growth, and reproduction.

The first and important use of feed is for body maintenance. Additional nutrients are needed for growth, work, gestation, milk production, and laying on body fat. (See Table 1.) Young animals need protein for building muscles, bones, hair, and hooves. Mature horses need less protein until pregnancy and lactation increase their needs.

Don't overlook water in your horse's diet. Water is necessary to all life processes. It carries nutrients and regulates body temperature. An animal can survive much longer without feed than he can without water. Always have fresh, clean, cool water available, except when a horse is hot from work. Permit a warm horse only a light drink to refresh him.

With proper supplements, most feeds useful to farm animals make satisfactory horse feeds after the horse becomes accustomed to their odor and taste. Horses digest some types of feeds more easily than other types. Roughages (hay and pasture) are high in fiber and relatively low in digestible nutrients (50 per cent). Concentrates (grain) are low in fiber and high in digestible nutrients (about 75 per cent).

DAILY FEED REQUIREMENTS

Feeding for maintenance

TDN: The nutrients required to maintain your horse vary with his weight and his work. The daily requirement per 1,000 pounds liveweight for an idle horse is 6.8 pounds of total digestible nutrients (TDN). This is approximately equal to 14 pounds of good quality hay per day. One pound of grain per day can replace about 1.5 pounds of hay.

Protein: Good quality pasture, or as little as 6 pounds of good quality alfalfa hay per day,

supply the protein requirement of a 1,000-pound horse.

Vitamins: Green pasture, or 3 to 5 pounds of good quality green hay per day, usually will meet maintenance requirements of 1.5 milligrams of carotene per 100 pounds of body weight. This is equal to about 900 international units (I.U.) of vitamin A. Pregnant and lactating (nursing) mares require much more vitamin A.

Minerals: Twenty-seven grams per day of calcium and 17 grams per day of phosphorus are required to maintain a mature 1,000-pound horse. Pregnant and lactating mares and young growing horses need more. Provide salt free-choice, particularly when animals are sweating heavily. A trace mineral salt will supply other minerals needed unless there is an unusual deficiency.

Feeding working horses, pregnant and lactating mares

Your horse needs more food for energy when his work is increased. However, he will not need more protein than is required for maintenance, so the food supplied for energy will give him an ample amount of protein.

The pregnant mare requires nutrients for maintenance, development of the fetus, increased body heat during gestation, and for any work she performs. A nursing (lactating) mare may produce 3 to 4 gallons of milk (25 to 30 pounds) per day. Milk production requires additional nutrients for protein and for energy. Also, a lactating mare requires two to three times her maintenance requirement of vitamin A and calcium-phosphorus.

ABBREVIATIONS USED IN TABLES

gm	gram(s)	gal	gallon(s)
mg	milligram(s)	lb	pound(s)
cc	cubic centimeter(s)	cwt	hundredweight
oz	ounce(s)	/	per
pt	pint(s)	EC	emulsifiable concentrate
qt	quart(s)	WP	wettable powder

Feeding the growing foal

The growing foal may gain one-half of his adult weight in one-fourth the time (12 months) it takes him to reach maturity. A well-balanced ration and adequate nutrition are particularly important during this stage of development. You may supplement the diet of the nursing foal with a taste of concentrate mix when he is 3 to 4 weeks old. Gradually increase this amount to $\frac{1}{2}$ to $\frac{3}{4}$ pound concentrate per 100 pounds of body weight. You can control the amount and kind of feed the foal receives with a creep feeder. This enclosure has a feed opening just big enough to admit the foal. A satisfactory creep ration may be a combination of oats, wheat bran, and protein meal.

After weaning, increase the amount of a ration that is palatable, high in digestibility, proteins, and minerals, and low in fiber. Total

TABLE 1: FEED REQUIRED DAILY FOR LIGHT HORSES

Work or condition of horse	Body weight (lbs)	Total feed (lbs)	
		Legume pasture or hay*	Grain
Idle horse (maintenance) [†]	800	12	0
	1,000	14	0
	1,200	16	0
Light work (1 to 3 hr/day)	800	12	3
	1,000	14	4
	1,200	16	5
Medium work (3-5 hr/day)	800	14	4
	1,000	16	5
	1,200	18	6
Heavy work (5-8 hr/day)	800	11	10
	1,000	15	11
	1,200	15	12
Pregnant mare (last quarter)	800	14	2.5
	1,000	14	3.0
	1,200	16	5.5
Lactating mare (4 gal/day)	800	15	8
	1,000	15	9
	1,200	18	10

* Pasture or legume hay recommended—if other than legume hay is used, include a protein-rich feed, such as linseed oil meal, in the concentrate ration.

[†] National Research Council says that a maintenance ration provides nutrients for up to 1 hour work per day.

TABLE 2: DAILY GAINS AND FEED REQUIREMENTS OF THE GROWING FOAL

Body weight lbs	Age mos	Average daily gain lbs	Daily feed* lbs	TDN lbs
200	2	1.6	6.7	4.2
400	6	1.2	9.9	6.2
600	14	.8	11.4	7.1
800	24	.5	12.3	7.7
1,000	44	—	10.9	6.8

* Based on 62.5 per cent TDN as air-dry material.

daily feed intake should be 2.5 to 3 pounds per 100 pounds of body weight. (See Table 2.)

The foal is still growing during his second year, and he should have good quality legume pasture and some concentrate feeding. In the third and fourth years, good pasture alone may provide most of the required nutrients. The concentrate requirement depends on the amount of work performed.

TABLE 3: SUGGESTED DAILY RATIONS FOR A 1,000-POUND HORSE AT MEDIUM WORK

Ration 1	
Alfalfa hay	14 lbs
Rolled barley	6 lbs
Wheat bran	1 lb
Ration 2	
Oat hay	10 lbs
Alfalfa hay	4 lbs
Rolled barley	4 lbs
Oats	3 lbs
Ration 3	
Grass hay	10 lbs
Alfalfa hay	3 lbs
Oats	5 lbs
Rolled barley	3 lbs
Ration 4	
Oat hay	8 lbs
Grass hay	6 lbs
Rolled barley	4 lbs
Oats	2 lbs
Wheat bran	1 lb

SOURCES OF NUTRIENTS

Many different feeds can supply the necessary nutrients for your horse. Protein-rich feeds include legume hay or pasture (alfalfa, clover, vetch), cottonseed meal, linseed meal, and soybean meal. (For sample rations, see Table 3.)

Starch is available from cereal grains such as oats, barley, and corn which are low in fiber and about 75 per cent digestible.

Fresh green roughage (grass or hay) is an excellent source of vitamin A. Grain hay or bleached, poor-quality roughage contains little or no vitamin A. Supplement these with a commercially prepared source of this important nutrient.

Legumes are relatively high in calcium; cereal grains are a source of phosphorus. In most cases you should supplement a prepared mineral mix with the calcium and phosphorus contained in natural feed to get the correct proportion.

Common California feeds

Following are characteristics of more important feed sources in California.

Pasture: In California, nonirrigated pasture is adequate for horses during only a few months. Irrigated pasture can be used all year and, if not overgrazed, will keep an idle horse in good condition. A pastured horse at light, medium, or hard work should have the same grain ration as a horse on hay.

Alfalfa hay: This most nutritious of available hays in California is high in protein, calcium, and vitamins A and D. It can make up all or part of a ration, but make the change to alfalfa gradually if a horse has been on oat or grass hay. Alfalfa is highly recommended for foals and pregnant or nursing mares, but a protein supplement should be provided.

Oat hay: Oat hay is the most common horse feed in the state, although it varies considerably in energy content and total digestibility. It is not recommended as the only feed for colts, growing horses, or broodmares unless supplemented by legume or legume mix, alfalfa hay, or alfalfa meal. Oat hay is lower in protein, vitamin A, and calcium than is alfalfa.

Sudan, pasture, and grass hay: All may substitute for oat hay. They may vary considerably in protein and energy content.

Oats: The most commonly fed grain for horses throughout the world, oats, may be fed alone or mixed with barley, bran, alfalfa meal, linseed meal, or other supplements. Oats may be whole or rolled.

Barley: You may substitute barley for part or all of the grain ration. It is slightly higher in energy and lower in bulk than oats and is best combined with a bulky supplement, such as bran or alfalfa meal. Barley must be rolled or ground to be an acceptable horse ration.

Wheat bran: Excellent as part of the grain ration, it should not make up more than a quarter of it. Fairly low in energy and total nutrients and high in bulk, wheat bran supplies protein and phosphorus, but it is slightly laxative. Occasionally it is fed as a hot-water mash after a day of heavy work. It is excellent for mares after foaling.

Alfalfa meal: When good alfalfa hay or pasture is unavailable, this is an excellent supplement. When mixed with molasses, it is sold as alfalfa molasses or "sweet feed." You can feed this free-choice gradually if your horse is accustomed to it. It is excellent for putting weight on thin horses.

Mixed grain rations: Most of those on the market are well balanced and usually include salt, vitamins, and minerals. You can use mixes as the only grain supplement, but they are expensive and rarely more nutritious than a home mixture.

"All-in-one" feeds: Pellets or meals that include the required hay and grain proportions are ground and mixed. If they are the only rations fed, use at same or slightly lower rate than good quality hay for horses at light and medium work. This is excellent feed where good hay is unavailable or hay storage is a problem; it is desirable also for horses that tend to be constipated on a hay ration. Usually it is higher priced than hay or grain rations, and some horses may still need a small amount of hay to prevent them from chewing fences or developing other bad habits as a result of restlessness or boredom.

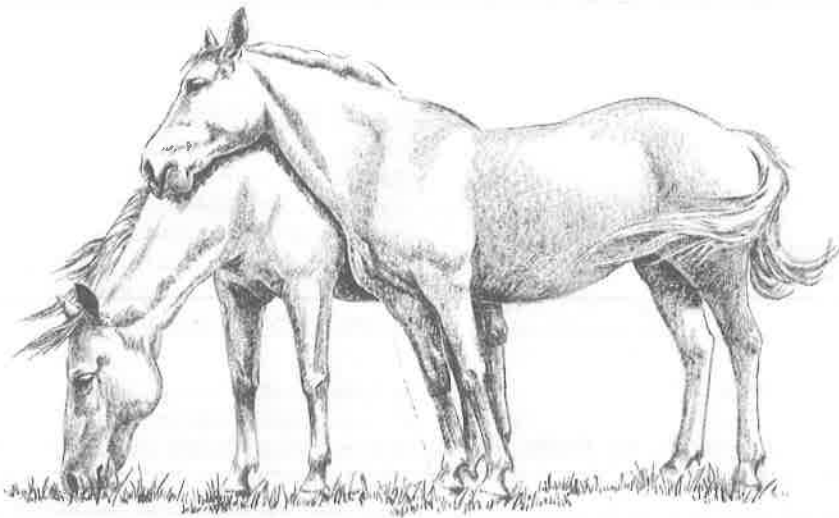
Suggestions for good management

A few general rules will help you avoid some common difficulties:

- Know your horse's age and what his weight should be when he is in good condition.
- Have a regular feeding time—2 or 3 times daily, if possible.
- Avoid sudden changes in type of food.
- Never give your horse moldy or dusty feed.
- Keep the feedbox clean.

- Feed your horse as an individual—learn his special requirements and preferences.
- Do not overfeed, but be sure to feed your horse adequately.
- See that your horse gets adequate exercise regularly.
- Have a veterinarian check your horse's teeth for soundness yearly.

For further information see *Feed Requirements of the Light Horse*, Priced Publication 4005.



Keeping Your Horse Healthy

Keeping your horse healthy is a very important part of your project. First of all, remember that the veterinarian is a valuable friend when your horse has disease problems. Give him the chance to prevent serious trouble when your horse first shows signs of illness. Don't put off calling him. Here are a few things you should know about keeping your horse in good health.

DISEASES

Equine Encephalomyelitis (sleeping sickness):

This brain disease affects both horses and mules. It can be transmitted to humans. In the early stages, the infected animal may walk

aimlessly about, sometimes in circles, and may appear depressed and sleepy. Grinding of the teeth often occurs; later, paralysis may develop in the throat, lips, and bladder, as well as blindness. Death may occur within 4 or 5 days after symptoms are noted. Some animals recover; others live but cannot react to normal stimuli and are referred to as "dummies."

The disease is caused by one of three filtrable viruses and is transmitted by mosquitoes. As soon as the disease is discovered, vaccinate all horses in a given area or just before mosquito season. (See Table 4, Vaccination Program for Horses.) All horses should be vaccinated annually for this disease.

Colic: This is another term for gastrointestinal upset in the horse. In most cases, colic is caused by failure to control internal parasites as well as by errors in feeding and management. It can result from such things as: over-eating; coarse indigestible feed; sudden changes in feed; working too soon after eating. Common signs of colic are pawing, stretching out like a sawhorse, looking at the side, getting up and down, rolling, and kicking at the abdomen.

A horse that is throwing itself and rolling should be walked until the veterinarian arrives. Any case of genuine colic should receive immediate veterinary attention.

Thrush: Proper cleaning of your horse's feet helps keep him healthy and well groomed. The most frequent cause of thrush is lack of proper foot care, particularly failure to clean out thoroughly the depths of the commissures and cleft of the frog. Other contributing causes may be a lack of frog pressure, insufficient exercise, filthy stables, dry feet, and cuts or tears in the horny frog.

You can detect thrush by the presence of cracks, depressions, or fissures in the horn of the frog containing a thick, dark-colored discharge with a very offensive odor. Thrush usually infects the cleft of the frog and the sides of the frog at the depths of the commis-

TABLE 4: VACCINATION PROGRAM FOR HORSES[†]

Disease	Organism	Spread	Vaccination	Remarks
Influenza	Virus (Myxovirus A-equi 1 and A-equi 2)	Contact (direct or indirect, i.e., food, water, utensils)	Bivalent killed vaccine. Initial vaccination with a booster in 6-8 weeks. Under 2 years of age give 2 injections annually 6-8 weeks apart; over 3 years give 1 annual booster.	Give booster vaccination in the spring, as disease is more prevalent in spring and summer or 2-3 weeks before start to show.
Strangles	Bacteria (Streptococcus equi)	Contact (direct or indirect)	Killed vaccine. Series of 3 injections at weekly intervals. 1 yearly booster.	Vaccinate animals showing signs of strangles or having recovered from strangles. Administration of more than a single booster injection annually is dangerous.
Tetanus	Bacteria (Clostridium tetani)	Wounds	Tetanus toxoid. Initial vaccination with a booster in 4-8 weeks. Yearly booster. An EEE, WEE, TAT combination is available.	Pregnant mares may be given booster within 60 days of foaling to supply colostral antibody to foal.
Virus Abortion (Equine Rhinopneumonitis)	Virus (Equine Herpes-Virus 1)	Contact (direct or indirect)	Attenuated live virus vaccine. Pregnant mare: Vaccinate at 2-3 months gestation and again before the 7th month. Yearly boosters necessary. Immunity of short duration.	Virus is responsible for abortions in mares and colds and coughs in young horses. Young horses: Initial vaccination with a booster in 4-8 weeks. Yearly booster.
Western Equine Encephalomyelitis (WEE)	Virus (arboviruses of Group A)	Biting insects (mosquitoes)	Killed vaccine. May use WEE/EEE combination.	Eastern Equine Encephalomyelitis has not been diagnosed in California.
Eastern Equine Encephalomyelitis (EEE)	Virus (arboviruses of Group A)	Biting insects (mosquitoes)	Killed vaccine. May use WEE/EEE combination.	Vaccinate just before mosquito season.
Venezuelan Equine Encephalomyelitis	Virus (arboviruses of Group B)	Biting insects (mosquitoes)	Live vaccine — 1 injection. May use a killed triple vaccine WEE/EEE/VEE.	All of these equine encephalomyelitis: 2 initial vaccinations, with yearly boosters thereafter.

Age to vaccinate foals is not well established. Colostral immunity has probably lost its inhibitory effect on the antigen in a vaccine by 3 months of age (the half-life of an antibody is 16 days, so that gradually the immunity acquired from the dam recedes).

[†] John P. Hughes, Professor, Veterinary Medicine, University of California, Davis.

tures. Thrush gradually destroys horny tissue, which may be underrun and loosened some distance back from the edges of the external opening. Horses usually do not become lame until the destruction of horny tissue reaches the sensitive tissues. Consult your veterinarian for treatment of thrush.

Colds: Upper respiratory infections in the horse are common problems. They often are accompanied by coughing and a runny nose. These signs also are present in equine rhinopneumonitis, equine arteritis, equine influenza and strangles, as well as other diseases. Consult your veterinarian if your horse is obviously sick and off feed or if symptoms persist. Working an animal with an apparent mild cold often leads to more severe diseases, such as pneumonia.

PARASITES

Parasite control is important to horse health. Horse owners are responsible for applying sanitary methods to prevent parasites in or on horses. The veterinarian will assist in the diagnosis and treatment of parasites and should be consulted before parasite problems become serious.

External

Control of these parasites and pests is almost a year-round job. The insecticides and drugs shown in Table 5 are listed in alphabetical order and are equally effective at the required application or dosage rate.

TABLE 5: EXTERNAL PARASITE CONTROL ON HORSES (NONFOOD USE)[†]

Chemical formulation and concentration	Application method	Amount	Remarks	
HORN FLIES, STABLE FLIES (Treat during warm months when flies are abundant.)				
LICE (Treat during fall and early winter. Repeat application in 10 to 14 days if necessary.)				
carbaryl* (Sevin ^R)	Dust	5%	Hand dust. 2 oz/animal	Apply to areas where flies congregate—head, neck, withers. Repeat as necessary.
coumaphos (Co-Ral ^R)	WP ¹	25%	Hand wash or spray. (0.06%) 3 oz/gal water	Apply to areas where flies congregate—head, neck, chest, withers. Repeat as necessary. Do not use in conjunction with internal medications, especially phenothiazine, natural or synthetic pyrethroids and their synergists, or with organic phosphates.
	EC	11.6%	(0.06%) 3 oz/gal water	
dichlorvos (Vapona ^R)	EC	20-24% (2 lb/gal)	Hand wash or mist spray. ½ oz/qt water (0.5%) ½ oz/animal	Apply to forehead, neck, withers, or chest areas where flies congregate. Repeat as necessary.
lindane*	WP ¹	25%	Hand wash or mist spray. (0.03%) 6 oz/gal water	Do not treat overheated or sick animals.
pyrethrins + synergist (piperonyl butoxide)	EC	0.1% + 1%	Hand wash or spray. Full strength	Same as above.
FACE FLIES ³ (Treat during warm months when flies are abundant.)				
carbaryl* (Sevin ^R)	dust	5%	Hand dust. 2 oz/animal	Apply to areas where flies congregate—head, neck, withers. Repeat as necessary.

[†]Permit from County Agricultural Commissioner required for purchase or use.

Table 5 - continued

Chemical formulation and concentration			Application method	Amount	Remarks
coumaphos (Co-Ral ^R)	dust	1%	Dust bags.	Add 2 to 3 lbs dust/bag. Re-charge as necessary. Do not allow more than 1 oz/head-day use.	Coumaphos dust may be used in dust bags. Bags can be made from narrow-gauge burlap sacks, grommited at open end for hanging from a chain or board. Place bags according to number of horses, their size, and habits. In some instances, dust transferred to homemade bags hung like punching bags may prove more effective or pour dust into sock and rub or tap sock over face areas by hand.
BLOW FLIES and SCREWWORMS (Treat when present.)					
coumaphos (Co-Ral ^R)	dust	5%	Thoroughly dust wounds and surrounding area.	Direct application.	Repeat once weekly until wound is healed.
lindane*	EQ 335 smear		As directed on label.		
ronnel (Korlan ^R)	aerosol spray, dust or smear	2.5% spray 5% dust 5% smear	Spray, smear, or dust into and around wounds. Use as directed.	Direct application.	
SPINOSE EAR TICK (Treat when abundant. May be present in all seasons, particularly during spring and fall.)					
coumaphos (Co-Ral ^R)	dust	5%	Dust or smear into ears as deeply as possible. Use as directed.		Repeat as necessary.
ronnel (Korlan ^R)	smear	5%			
TICKS (Treat when abundant.)					
coumaphos (Co-Ral ^R)	WP ¹	25%	Hand wash or spray.	(0.12%) 1 lb/25 gal water	Refer to remarks given for flies.
	EC	11.6%		(0.12%) 1 qt/25 gal water	
lindane*	WP ¹		See instructions given for flies.		
BOTS (intestinal forms) (Treat in late fall and again in early spring.)					
carbon disulfide	liquids		Stomach tube.	2 cc/cwt— not over 30 cc/animal	Consultation with and treatment by veterinarian only.
carbon disulfide	suspension		Stomach tube.	1 oz/cwt	Consultation with and treatment by veterinarian only.
+ piperazine ("Parvex")	bolus	20 gm 10 gm	Balling gun.	1 bolus/250 lbs body weight 1 bolus/125 lbs body weight	

*Permit from County Agricultural Commissioner required for purchase or use.

Table 5—Continued

Chemical formulation and concentration			Application method	Amount	Remarks
dichlorvos (Vapona ^R) ("horse wormer")	powder	20%	Orally in feed and 1 month after first frost.	14.2 to 18.5 mg/lbs body weight or one half these amounts given two times 8 to 12 hours apart	Veterinary consultation recom- mended. Do not treat sick or debilitated animals, colts under 4 months old, or mares in last month of pregnancy. Withhold water for 4 to 6 hours before treatment and 3 to 4 hours after treatment. Do not treat more than once every 30 days. Do not use in conjunction with other insecticides.
dichlorvos (Vapona ^R) ("Equigel")	gel	37%	Orally by syringe before first frost.	32 cc/1,200 lbs body weight	Consultation with and treatment by veterinarian only. See remarks for "horse wormer," but withhold food overnight before treatment and 3 to 4 hours after treatment.
trichlorfon (Neguvon ^R) ("Anthon," "Dyrex")	powder	90%	Orally in feed and 1 month after first frost.	1 packet (5 gm)/ 250 lbs body weight	Veterinary consultation recom- mended. Do not treat sick or debilitated animals, colts under 4 months old or mares in last month of pregnancy. Do not treat more than once every 30 days. Do not use in con- junction with other insecticides.
BOT FLY EGGS (on body, lips, and jaws of animals). (Treat during early fall, particularly after first frost.)					
coumaphos (Co-Ral ^R)	WP	See instructions given for flies.	Hand wash using warm water.		Wipe body hair areas, lips, or jaw regions where bot fly eggs are observed.
lindane*	WP				

¹Wettable powder formulations are preferred because of certain solvents contained in emulsifiable concentrate formulations, which, even when diluted with water, may cause hair damage and skin irritation to some horses.

²Hand washing or sponging may be more desirable than spray applications because some horses become excitable and difficult to control when sprayed.

³These flies are extremely annoying to horses, congregating mainly on muzzles and eyes. They closely resemble the common house fly and are more numerous on horses having access to pasture, open rangeland, or under confined conditions (pens) when these are adjacent to pastured cattle. Animal sprays do not give satisfactory control of the face fly, and because the fly concentrates on the face, frequent use of face smears or daily dust-bag use by horses offers more promise of satisfactory control.

* Permit required for purchase or use from the County Agricultural Commissioner.

^RRegistered trade name.

[†]Edmond Loomis, Extension Parasitologist, University of California, Davis.

Permanent parasites, such as lice and ticks, are discovered by frequent examination of animals. It is important to control these parasites before large populations occur. Control of lice is important during the winter. It is suggested that horses be individually treated by hand washing or brushing; retreat in two weeks to kill young lice hatching from eggs. Saddle blankets and other equipment of lice-infested horses should be soaked in boiling water or rubbed down with an insecticide.

Tick control is chiefly encountered during late fall and spring. Horses should be inspected after trail rides or exercise in grasslands and brush-covered "tick country." Take special care to treat body areas where the skin rubs together (fore flank, inner surface of rear flanks, and between the thighs).

Fly control: The common house fly, biting stable fly, false stable fly, blow fly, and others often become a nuisance around horse stables

and other areas where livestock are kept. Unlike the other pests mentioned in this publication, these flies cannot be controlled solely by chemical treatment of the animals.

The most effective control is sanitation aimed at the disposal of fly production sources—such as manure, feed residues, and other barn wastes—combined with application of insecticides as needed to the buildings and surrounding areas.

Chemical treatments seldom give satisfactory results, if flies are developing in nearby manure or other wastes. Flies can move into the treated area from such sources faster than they can be killed by the fly sprays. When fly production material is eliminated by spreading and drying, pit composting, or immediate off-ranch removal, the remaining flies usually can be satisfactorily controlled by insecticides.

Apply surface-spray insecticides to inside and outside walls of stables, barns, outbuildings, and nearby corral fences. Supplement the surface sprays with dry and liquid baits, space sprays, and lastly, larvicides. Do not spray animals with these materials at the dosage levels recommended for fly control.

Fly control on horse ranches requires special care because of the possibility of contaminating feed and water with insecticides. For more detailed information, see *Fly Control on the Horse Ranch* (Leaflet 2335). This may be obtained from your local University of California Cooperative Extension farm and home advisors' office.

Internal

Horses are subject to many different species of stomach and intestinal worms. All of these worms go through a life cycle which includes time spent outside the horse. Worm eggs are passed in the feces and these, as well as the larvae which hatch, are again infective for the horse when it ingests these forms with contaminated food or water.

It is important, therefore, to practice good animal management which can help reduce worm burdens present or help prevent new worm infections. The following recommendations will help in this respect:

1. Do not feed on the ground nor allow horses to drink from stagnant water holes, particularly those on pastures that receive manure drainage.
2. Do not overstock pastures. Move horses from one field to another at frequent intervals.
3. Provide proper drainage in pastures to avoid low spots and allow pastures to dry after irrigation before stocking.
4. Clean stables and stalls daily and re-bed twice a week in summer and weekly in winter. Good sanitary methods of these wastes will help to control worms as well as assist in fly control.

It is best to have a veterinarian treat or recommend the correct anthelmintic drug for internal parasites. The drugs listed in Table 6 are poisonous and must be used with extreme care to avoid side effects from overdosage or poor parasite control from underdosage of the horse. Also some drugs are given by means of a stomach tube or balling gun (for boluses) and this can be dangerous—both to the horse and man—if done by an inexperienced person.

Intestinal parasites

Intestinal parasites can seriously harm your horse. They do great damage by interfering with your horse's growth, thriftiness, development, performance, and resistance to disease. Young animals are more susceptible and suffer the greatest damage.

The most common and dangerous intestinal parasites in horses are bloodworms (strongyles), roundworms (ascarids), and bots.

Bloodworms (strongyles): The most dangerous internal parasites of the horse, they affect old as well as young animals. These parasites are bloodsuckers and often cause anemia, weakness, emaciation, and diarrhea. Check with your veterinarian for the choice of treatment.

Roundworms (ascarids): These are the long, white worms sometimes seen in the horse's droppings. They occur mainly in young horses

and can cause unthriftiness, loss of energy, and digestive disturbances, particularly in colts. For treatment, consult your veterinarian.

Bots: For this larval form of the botfly a good preventative measure is to remove the small yellow eggs sometimes seen on the long hairs of the legs and belly. A veterinarian can treat your horse for bots in the spring and late fall when he treats for the strongyles and ascarids.

For more detailed information see *The Common Parasites of Horses* (Priced Publication 4006).

TEETH CARE

A horse's back teeth or molars often develop jagged edges which cut into his cheeks and bother him during eating. This problem is especially serious with horses under 6 years and with horses older than 12 to 14 years. A veterinarian should inspect and float the teeth once a year, if necessary.

TABLE 6: ANTHELMINTIC DRUGS FOR CONTROL OF INTERNAL PARASITES OF HORSES

Trade name	Drugs Chemical name	Route of administration	Dosage per 100 lbs body weight	Parasite efficacy
Carbon disulfide	Same	Tube	2.5 cc (max. 30)	Ascarids, mature Pinworms, and small Strongyles.
Dizan suspension	dithiazanine iodide + piperazine citrate	Tube	2 gm + 2.5 gm	Ascarids, Pinworms, and small Strongyles.
"Dyrex Cap-tab"	trichlorfon	Bolus	1.8 gm	Ascarids, Pinworms, Strongyles, and Bots.
"Dyrex TF"	trichlorfon + phenothiazine + piperazine	Tube	Follow directions on package.	
"Dyrex" or Anthon	trichlorfon	Feed	Follow directions on package.	As above.
Equigard	dichlorvos	Feed	1.66 gm	Strongyles, Pinworms, Bots, possible Ascarids.
"Equigel"	dichlorvos	Paste	13.3 gm	As above.
Equizole	Thiabendazole	Tube or feed	2 gm	Strongyles and Pinworms.
Equizole A	Thiabendazole + piperazine	Tube or feed	0.2 oz	Ascarids, Strongyles, and mature Pinworms.
"Parvex"	carbon disulfide + piperazine	Tube Bolus	1 oz 1 gm	Ascarids, mature Pinworms, and Bots.
"Parvex Plus"	As above + phenothiazine	Tube	4 gm	Ascarids, mature Pinworms, Strongyles, and Bots.
Piperate-34	Piperazine	Tube	5 gm (10 gm piperazine salt = 5 gm active ingredient)	Ascarids, mature Pinworms, and small Strongyles.
Strongid	pyrantel	Feed	0.33 gm	Ascarids, Pinworms, and Strongyles.
Telmin	Mebendazole	Tube or feed	2.4 gm	Ascarids, Pinworms, and Strongyles.

Handling Your Horse

Horses are timid and react violently when frightened. However, you need not fear horses if you use common sense precautions. The reverse of this is also true; if you are overconfident or careless around horses, you may be injured.

TAKE SAFETY PRECAUTIONS

Here are some basic safety rules that should be part of your daily habits when working or handling horses.

- Never approach your horse directly from the rear. Even in a single stall it is possible to approach from an oblique angle at the rear.
- Always speak to your horse before approaching or touching him. Some horses are likely to jump and may kick when startled.
- Always walk around the rear of your horse; never walk under or step over the tie rope.
- Always work close to your horse. If you are near his shoulder you won't be struck by his feet. Nor will you receive the full force of a kick when you work about the haunches or pass behind your horse.
- When working your horse, wear boots in case a horse steps on you.
- When riding, wear boots with proper heels to prevent your feet from slipping through the stirrups.
- Keep your head clear when bridling or clipping the horse. He may throw his head or strike. Avoid working with nervous animals in close quarters.
- When leading your horse, walk beside him—not ahead or behind.
- Use a long lead strap and both hands when leading. If the horse rears up, release the hand nearest to the halter so you can stay on the ground.
- The horse is stronger than you, so don't try to outpull him.
- Never wrap the lead strap, halter shank, or reins around your hand, wrist, or body.
- Never tie your horse by the reins, as he may pull back, injure his mouth and/or break the reins.
- Never let your horse eat when wearing a bridle; he may step on the reins or get his feet tangled in them. Also, feed (hay) may get caught in the bit and injure his mouth.
- Keep bridle, reins, stirrup leathers, and cinch straps in the best possible condition. Your safety depends on them.
- Stand with your feet well back in the clear and reach forward when saddling the horse.
- Never mount your horse in a barn, near fences, trees, or overhanging projections.
- Adjust the saddle carefully, and then pull cinch or girth tight enough so the saddle will not turn when mounting. Soon after starting the ride, dismount again and tighten the saddle girth. A horse will often expand his ribcage when first saddled, and failure to tighten girths later can result in serious accidents.
- If your horse is frightened by an obstacle, you may want to dismount and lead him past it. If possible, allow the horse to see and smell the object in order that he not acquire a bad habit.
- Keep your horse under control and maintain a secure seat at all times. Horses are easily frightened by unusual objects and noises. Anticipate these and steady your horse.
- When your horse is frightened and tries to run, turn him in a circle and tighten the circle until he stops.
- When riding in groups, do not ride closer than one horse's length to the horse in front of you, and be alert for overhead tree branches.
- Hold your mount to a walk when going uphill or down.
- Reduce speed when riding on rough ground or in sand, mud, ice, or snow, or where there is danger of the horse falling or slipping. (For more information see *Horse Behavior*, Leaflet 21002).

- Avoid paved roads. Slow your mount to a walk when crossing such roads. If he is a spirited or young horse, dismount and lead him across.
- Never tie your horse in the trailer before the tailgate is closed. Always untie him before the tailgate is opened.
- Know your horse, his temperament and reactions. Control your temper at all times, but let him know that you are his firm, kind master.

Be firm and gentle

Horses require kind, gentle treatment. There are few vicious horses. Most became vicious because of abuse. However, you must be firm and consistent. Decide what you want from your horse, and insist on getting it.

Do not punish your horse, except at the instant of his disobedience. If you wait even a minute, he will not understand why you are punishing him. Punish without anger, lest your punishment be too severe. Never strike or kick your horse about the head or legs.

PREVENT VICICES

The old adage, "an ounce of prevention is worth a pound of cure," is true. It is much easier to develop habits that prevent vices in horses than it is to try to break bad habits. Some common vices to prevent are: kicking, biting, striking, pulling back, and cribbing. Careful handling of your horse can prevent some vices. Kicking is frequently caused by handlers teasing, abusing, tickling, or pinching. Some horses kick only at other horses. Before kicking, a horse usually will put back his ears. This is the time to touch him with a spur, or give him a sharp tug at the reins. Other horses kick only at human beings; you must

exercise care around these animals—they never can be trusted. A sharp rap with a whip at the instant of the kick sometimes is helpful. A careful groom sometimes can educate a kicker out of this vice.

Biting is another vice. A confirmed biter should be muzzled or fitted with a large wooden bit. A rap on the nose at the instant of biting will help cure an occasional biter. Never tease a horse to make him bite, even in play.

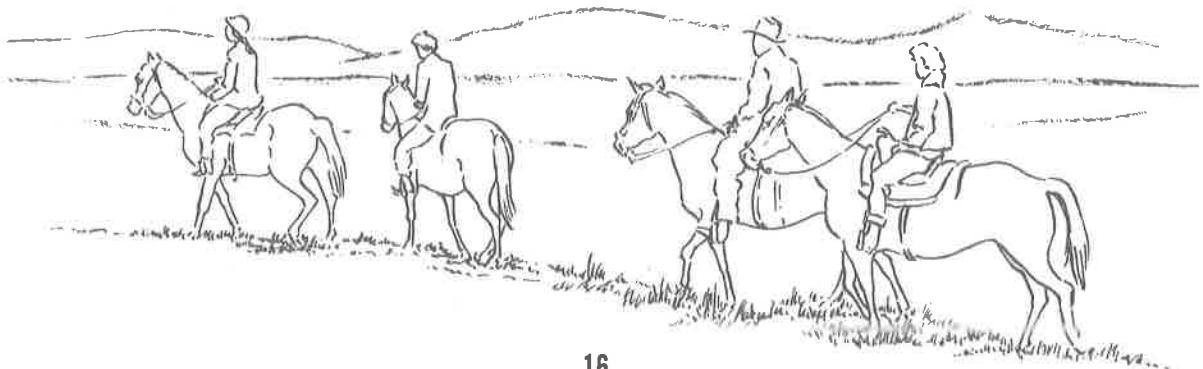
Striking is a vice where the horse throws one or both front feet forward to hit a person or another horse. Injury to horses and handlers may result. Seek advice from an experienced trainer before you attempt to cure this vice.

A horse that pulls back is likely to break equipment, particularly halters. Always be sure the horse is securely tied with a strong halter and rope to a stout post, so that he is not apt to break loose when pulling back. Getting loose only encourages this bad habit.

Cribbing and wind sucking usually are associated, although a horse may be subject to one vice without the other. Cribbing involves chewing boards in fences, paddocks, corrals, or feedboxes. This may damage his teeth as well as the wood he chews. To prevent cribbing, nail metal strips on the tops of gates, fences, and feedboxes in stalls. Wind sucking is a practice in which the horse bears down on the manger or other projecting object with his upper teeth, flexes his neck, and sucks wind into his stomach. Seek advice from an experienced trainer before you attempt to cure these vices.

Patience pays off with a balky horse. Do not whip him; speak gently to him, pulling him to the right and left alternately with the reins. Be patient, and do not try to hurry him.

For more information see *Training Horses; Tips and Procedures*, Leaflet 21088.



Grooming Your Horse

Grooming means not only cleaning your horse but also improving his health. It means he will look better, eat better, feel better, and, as a result, act and perform better.

Vigorous grooming massages the underlying body muscles and improves fitness. It cleans the hair. It stimulates the pores to produce natural oils that bring a shine to your horse's coat. You won't need to apply artificial oils if you groom your horse regularly, properly, and thoroughly.

Grooming gives you a chance to go over the entire body of your horse. In doing so, you can discover parasite eggs, lice, mange, or skin disorders. If you find any, control them immediately.

USE PROPER EQUIPMENT

Grooming equipment may include:

- rubber or plastic currycomb
- dandy brush—a stiff-fiber brush used for the mane and tail and the extreme lower portion of the legs
- body or finishing brush—a soft-fiber brush
- sponge
- grooming cloth, such as Irish linen, salt sack, or even burlap, which will shake out readily
- hoof pick to clean horse's feet

Keep this equipment clean. You would not wash your face with a dirty cloth nor comb your hair with a dirty comb or brush. This also applies to your horse; you can't do a clean job with dirty tools.

FOLLOW PROPER GROOMING PROCEDURE

Follow these steps in grooming:

1. Take your horse out of the stall and cross-tie him securely. If you cannot take him from the stall, tie him before you start grooming. This is a must for your safety. There are four accepted ways to secure a horse for grooming: direct tie, crosstie, rope-in-hand, and hobble.
2. Remove the stable sheet or blanket properly. This is another must for your safety. Release the back strap first, then the middle strap, and finally the front strap. Pull the blanket off your horse along the lay of the hair. Turn it inside out, shake it, and hang it where it will air while you are grooming. When you put the blanket back on your horse, be sure you fasten the front strap first.
3. Start on the left side. Take the currycomb in the right hand and the body brush in the left. Start with the currycomb and follow along with the body brush. Begin on the neck immediately behind the head. Then work the chest, the withers, the shoulders, and foreleg down to the knee. Then work the back, the side, the belly, the rump, and the hindleg down to the hock. The motion for the currycomb should be irregular, back and forth, or in a small circular motion. Remember, never use it about the head or on the legs from the knees and hocks down.

Clean your currycomb by tapping it against the heel of your boot. Clean your brush every few strokes with the currycomb.

Now groom the right side in the same order as you did the left, changing your brush to the right hand and currycomb to the left.

Finally, brush the head and face, using the body brush.

4. Put your body brush aside. Take your dandy brush and brush the mane and tail. Start at the bottom or ends and work gradually toward the roots. Free any entanglements with your fingers.

Wash the tail occasionally with warm water and soap. Be sure to rinse thoroughly.

Use the grooming cloth or rub rag to wipe the ears, the face, the eyes, the nostrils, lips, sheath and dock, and give a final polish to the coat.

5. Soak the sponge in water and press out as much water as possible. Your sponge should be damp, but not dripping. Stroke the eyes with an outward circular motion, the ears with an upward motion. Clean the nostrils and the lips with your damp sponge. Then go to the rear of your horse, raise the tail and clean the portion of the dock where there is no hair. This is where sweat and dirt collect and often cause a sore tail.

Give extra care to his knees and elbows, or hocks. These places are abused when your horse lies down and gets up. Use a damp sponge to straighten out the hair.

Your horse has feelings. Don't abuse him by severe grooming. Be careful with the thin-skinned or short-haired animal. Don't apply so much pressure that you irritate the skin. To do the best job, stand erect, an arm's length from your horse so that when your arms are extended forward you will just touch your horse with the palm of your hand. Then, when working, you'll have to lean forward. Your

body leaning toward the horse should give you enough pressure. Apply just enough so that there is movement between the skin and the underlying muscles. It is this massaging action in grooming that is most effective.

CLEAN YOUR HORSE'S FEET

Nothing is much more important in grooming and caring for your horse than properly cleaning his feet.

Lack of proper grooming of his feet, particularly failure to clean out thoroughly the depths of the commissures and cleft of the frog, can cause thrush. Contributing factors include a lack of frog pressure, insufficient exercise, filthy stables, dry feet, and cuts or tears on the horny frog, but failure to clean a horse's feet properly causes thrush most frequently.

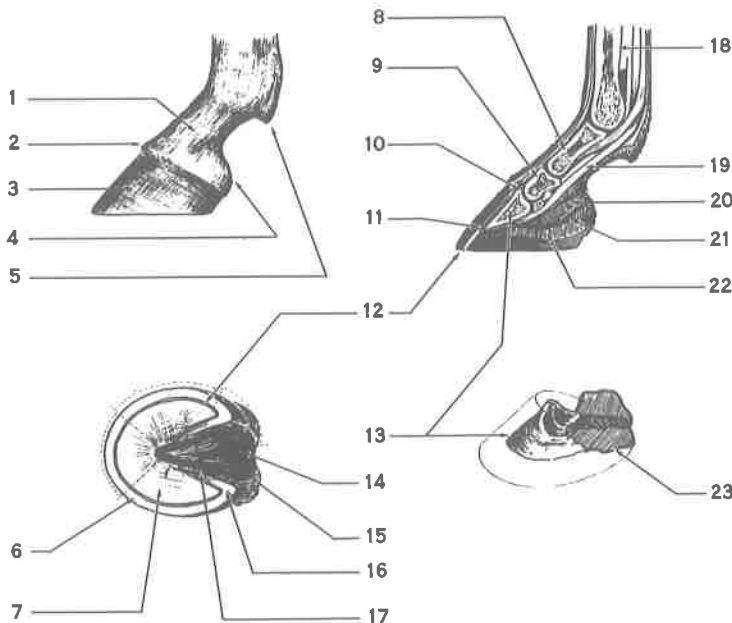
If your horse is shod, replace or reset shoes every 6 to 8 weeks. Unshod horses, broodmares, and colts need their feet trimmed every 8 to 10 weeks.

Hoof dressing and oils improve the appearance of the horse's feet for show, but most of them do little to soften hard and brittle hooves. Standing the horse in mud for a few hours on a regular basis will do this best.

Remember that cleaning your horse's feet is a part of grooming, and do it regularly. This means that you should know how to pick up your horse's feet. (Fig. 1, page 19.)

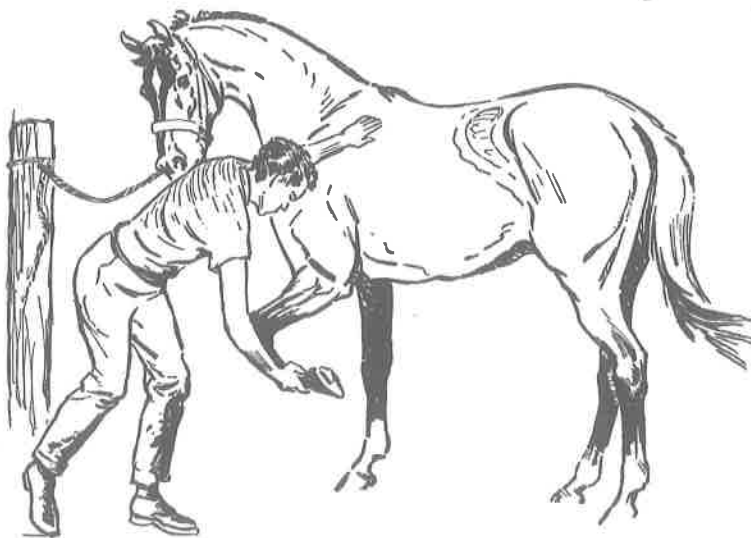
When you have a clean horse, remember to put the stable sheet or blanket on your horse and fasten the buckle in FRONT first. Then adjust your sheet or blanket, then the front body strap, and finally the body strap.

How to Clean Your Horse's Feet

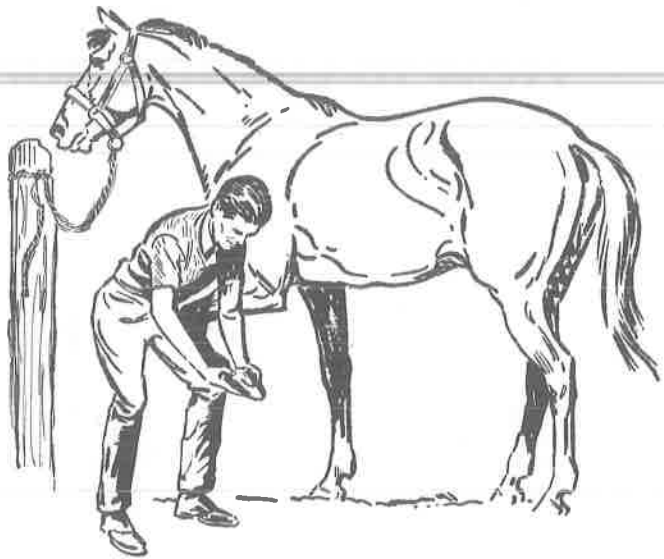


1. PASTERN
2. CORONET
3. HOOF
4. BULB
5. FETLOCK
6. WALL
7. SOLE
8. LONG PASTERN
9. SHORT PASTERN
10. CORONARY BAND
11. SENSITIVE LAMINAE
12. WHITE LINE
13. COFFIN BONE
14. CLEFT OF FROG
15. FROG
16. BUTTRESS
17. COMMISSURES
18. CANNON BONE
19. DEEP FLEXOR TENDON
20. PLANTAR CUSHION
21. SENSITIVE FROG
22. INSENSITIVE FROG
23. LATERAL CARTILAGES

1. Always work in order—near fore, near hind; off fore, off hind. Stand on the left side of your horse, facing his rear. Place your left hand on the horse's shoulder. Bending over, run your right hand gently but firmly down the back of the leg until the hand is just above the fetlock. Press against the horse's shoulder with your left hand, forcing his weight onto the opposite foreleg. Grasp the fetlock with the fingers.



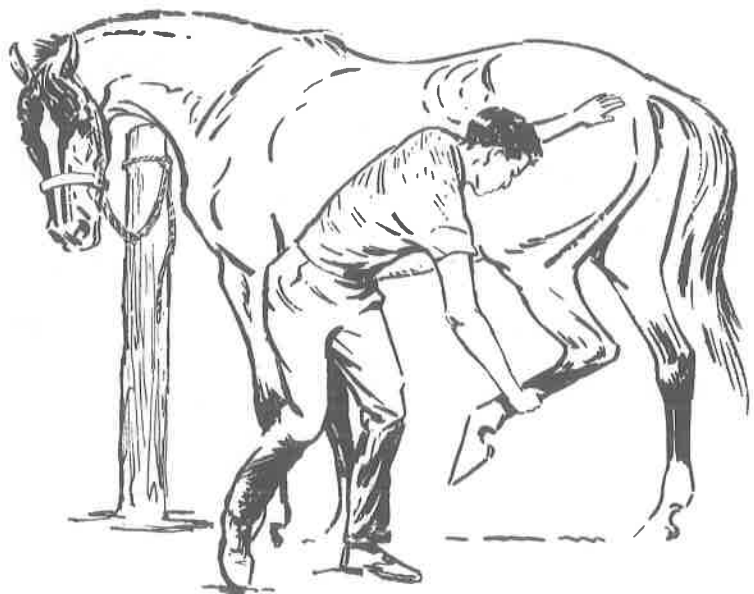
2. When the horse picks up his foot, support it on your left knee.



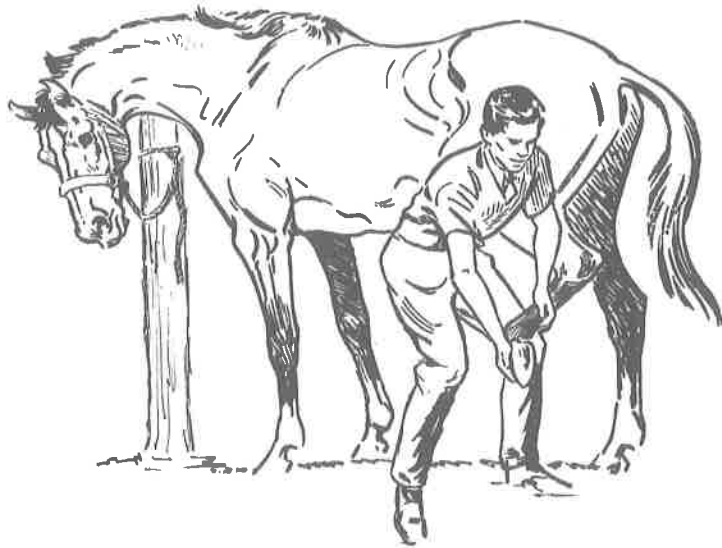
3. With the hoof hook, clean out the hoof from heel to toe. Clean around the frog—the triangular growth in the center of the hoof. At the back of the frog is a depression which goes up into the hair. This is called the **cleft**. The depressions on each side of the frog are the **commissures**. It is important to clean thoroughly both of these areas, as **thrush** and other foot infections occur in these places. Inspect the feet for rocks, nails, injuries, loose shoes, and thrush.



4. Again working from the left side, stand well forward of the horse's hindquarters, facing his rear. Gently stroke the back as far as the point of the hip, against which your left hand is placed. Stroke the leg gently but firmly with your right hand down as far as the middle of the cannon. Press against the horse's hip, forcing his weight onto the opposite hindleg. Grasp the cannon just above the fetlock with your right hand, lifting the foot directly toward you so that the leg is bent at the hock.



5. Then move to the rear, keeping the hind leg next to your thigh. **Avoid holding the foot out to one side of the horse.** The discomfort of this position will make him resist. Swing your left leg underneath the fetlock to support the leg firmly.



Shelter and Corral

PLANNING A SHELTER

You don't need elaborate shelter for your horse, but some protection from the weather is desirable. Simple three-sided buildings with shed-type roofs are adequate if the open side is away from the prevailing wind and rain. Your farm advisor can supply plans for horse barns. These plans may be more elaborate than you want, but they will give you ideas on how to make a shelter for your horse.

Horses may be kept in box or tie stalls. Box stalls should be at least 10 by 10 feet with solid walls of smooth planks at least 7 feet high. A well-drained earth floor is preferable to wood or concrete. If you use concrete for flooring, cover it with planking. Ceiling should be at least 8 feet high, and 4-foot doors are desirable. Doors should be divided horizontally at about the halfway point so you can open the top half for ventilation and light. Place metal or wood feedboxes and hayracks at a convenient height for your horses. A horse should not have to raise his head or "reach-up" to get his food.

Tack and feed storage should be a part of shelter plans, and give thought to preventing

rodent damage. Proper hangers will keep equipment off the floor.

BUILDING A CORRAL

When horses are kept in box or tie stalls, clean these stalls daily to prevent thrush. Dispose of manure promptly to prevent fly problems.

Remember that a horse confined to a stall must have exercise, so plan a daily program of exercise for your horse. Corrals are desirable for handling your horse. When space is available, they should be located adjacent to the stall and be large enough to provide an exercise area. Wood and pipe are preferable fencing materials. Barbed wire is undesirable because of the danger of cuts. Horses also can catch shoes in woven wire and damage their feet. Sometimes horses push fences out of shape by leaning on them. You can prevent this by placing a smooth strand of wire at the top of the fence and energizing it with an approved electric fence charger.

Include plenty of clean, fresh water in plans for shelters and corrals. Locate tanks and automatic devices where they may be drained and cleaned easily.

Caring for Tack and Equipment

Your tack and equipment are as much a part of your horse's care as your horse. It's important that you know how to care for them and use them properly. Learn to identify the parts of your saddle and bridle. Learn how to halter, tie, saddle, and bridle your horse properly.

At home, always hang your saddle and bridle on suitable racks in a dry room. A 1-pound coffee can nailed to the wall makes an excellent bridle hanger. (Never hang a bridle on a nail!) Mice like leather, so watch out! Air and dry saddle and stable blankets immediately after use. Occasional washing is necessary.

Regular cleaning and care keeps equipment looking well, and adds greatly to its life and usefulness. A thorough cleaning technique for all equipment automatically provides a safety check, an important factor in horsemanship.

First, take the equipment apart, then wipe it as clean as possible with a dry rag. Brush the lamb's wool under the saddle with a whisk-broom to remove all foreign material. (Also spray with a moth repellent once a year.) Then wash all leather parts thoroughly with castile soap and water to remove all dirt and sweat. When leather is extremely dirty, a small amount of sal soda in the water will help to clean it.

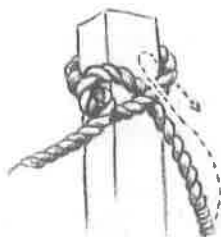
Then apply saddle soap, using an almost-dry sponge to further clean, soften, and replace the natural oils in the leather. The sponge should be dry enough so there is no lathering. Rub a generous amount of saddle soap into the leather. Let the leather dry thoroughly, then rub it vigorously with a clean, dry cloth to obtain a shine and to fill the pores and cuts on the surface. You may want to use neat's-foot oil or other leather finish material on parts that constantly come in contact with the horse. This replenishes the natural oils.

An old toothbrush is helpful in cleaning the bit and other metal. After washing the metal parts with soap and water to remove all saliva, grass, dirt, etc., dry and apply a cleanser or metal or silver polish to remove stains and tarnish. Always be careful to remove all of the polish from the bit.

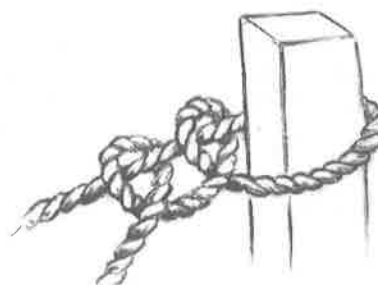
For shows or fairs, you need a water bucket (at least 16-quart size), a feed pan or feedbox for grain, a second bucket for washing your horse and equipment, a box for your grooming equipment, and preferably a tack box or trunk for your saddle, bridles, and other equipment. Well-kept equipment makes a good horseman. Keep yours so you can take pride in it always.

USE AND IDENTIFY EQUIPMENT PROPERLY

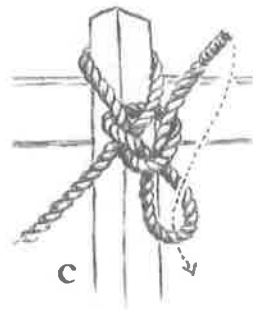
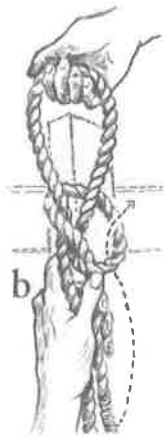
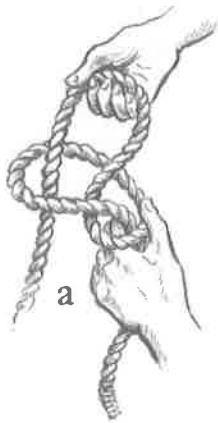
Every horseman should know how to identify and use his equipment. You should be familiar with these basic knots and pieces of equipment. The knots include the slip-knot, the bowline, the manger tie or clove hitch, and the half-hitch. Study the sketches and practice the knots until you can tie them rapidly.



HALF-HITCH INTO TIMBER HITCH

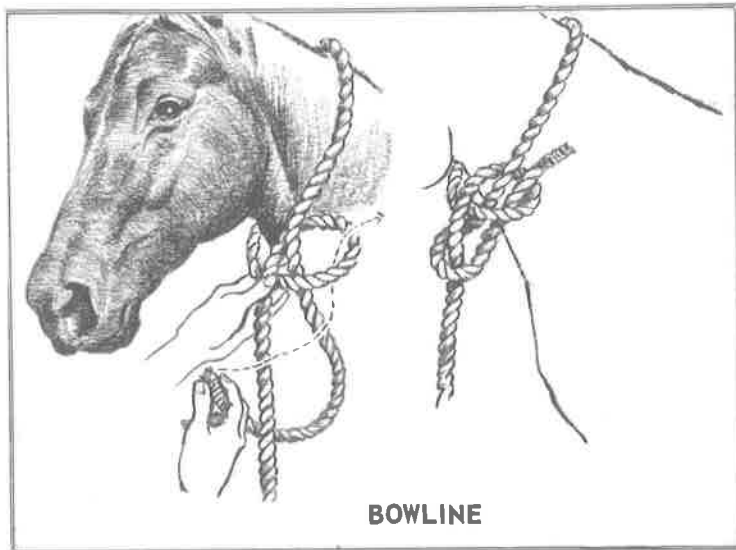


TWO HALF-HITCHES

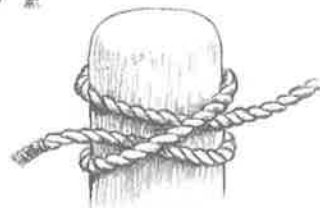
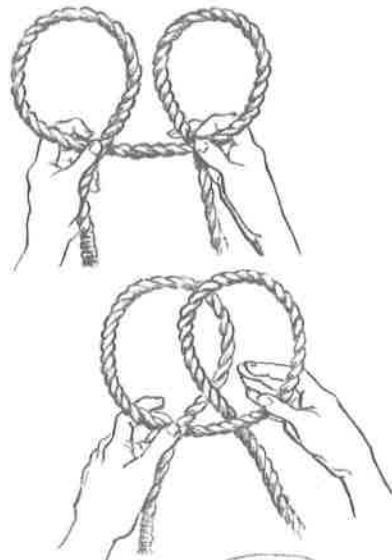


SLIP-KNOT

SLIP-KNOT WITH RELEASE LOOP



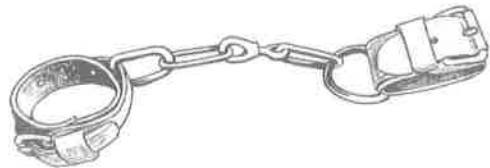
BOWLINE

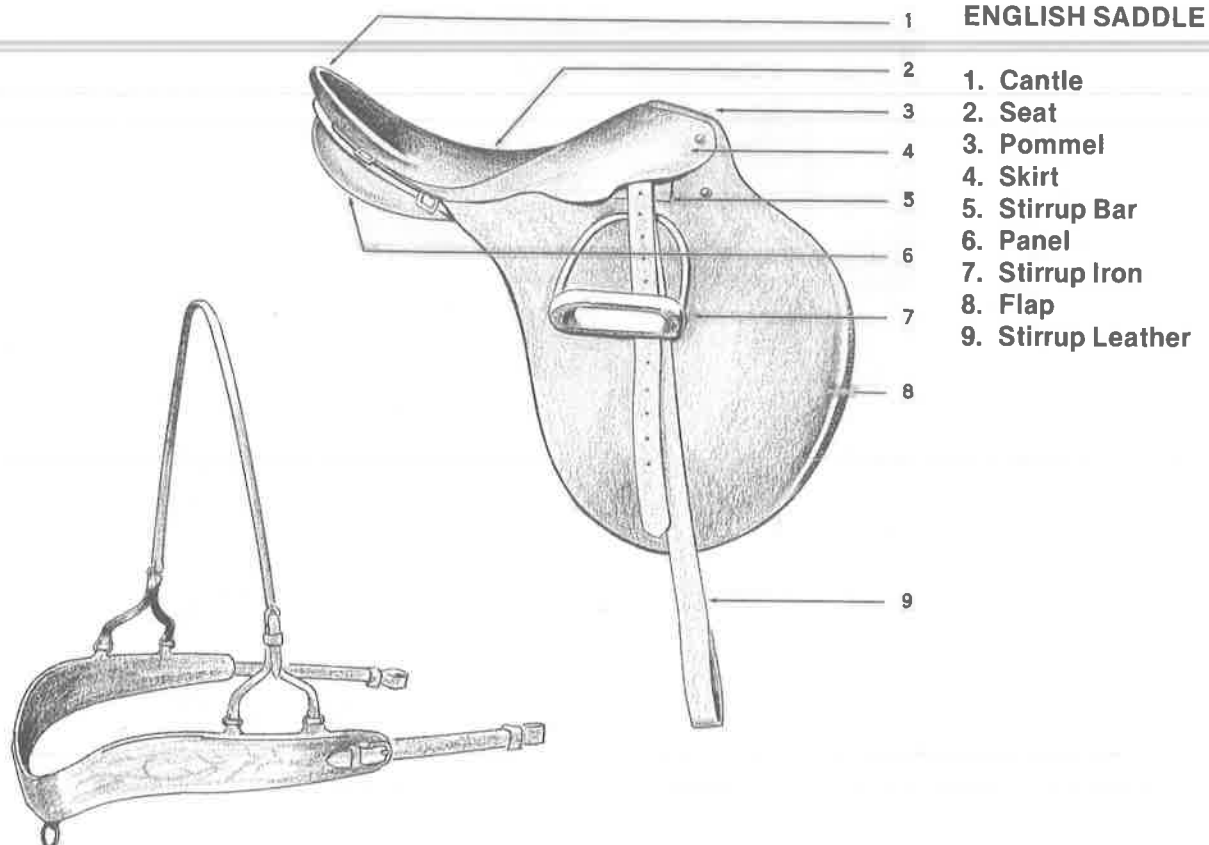


CLOVE HITCH



HOBBLER





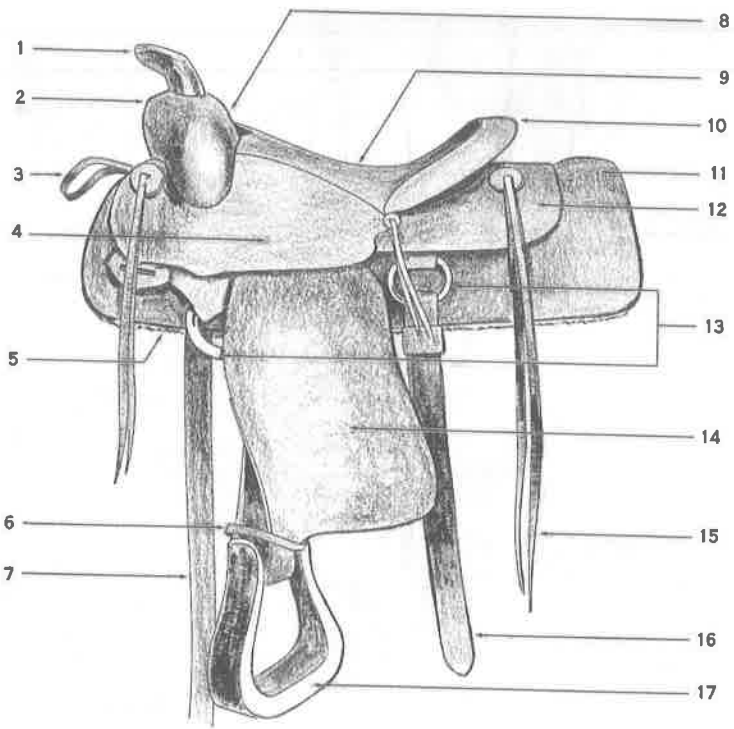
ENGLISH SADDLE

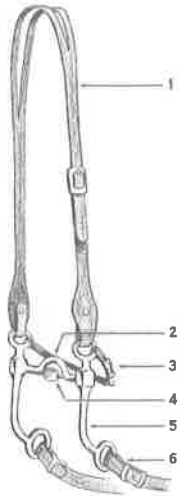
- 1. Cantle
- 2. Seat
- 3. Pommel
- 4. Skirt
- 5. Stirrup Bar
- 6. Panel
- 7. Stirrup Iron
- 8. Flap
- 9. Stirrup Leather

BREAST STRAP

WESTERN STOCK SADDLE

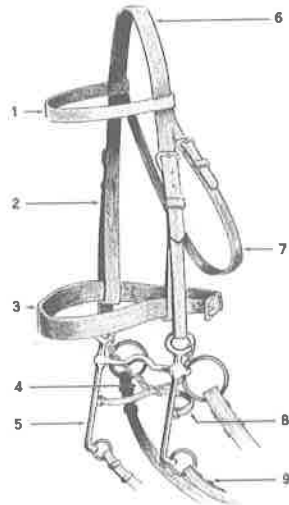
- 1. Horn
- 2. Pommel
- 3. Rope Strap
- 4. Front Jockey and Seat Jockey, One Piece
- 5. Sheep Wool Lining
- 6. Stirrup Leather
- 7. Front Tie Strap or Cinch Strap
- 8. Fork
- 9. Seat
- 10. Cantle
- 11. Skirt
- 12. Back Jockey
- 13. Dee Rings
- 14. Fender
- 15. Lace Strings
- 16. Leather Flank Girth
- 17. Stirrup





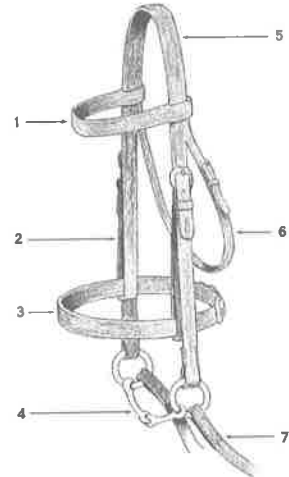
SPLIT-EARED BRIDLE WITH HALFBREED BIT

1. Split-ear Headstall
2. Port
3. Strap
4. Roller or Cricket
5. Cheek
6. Reins



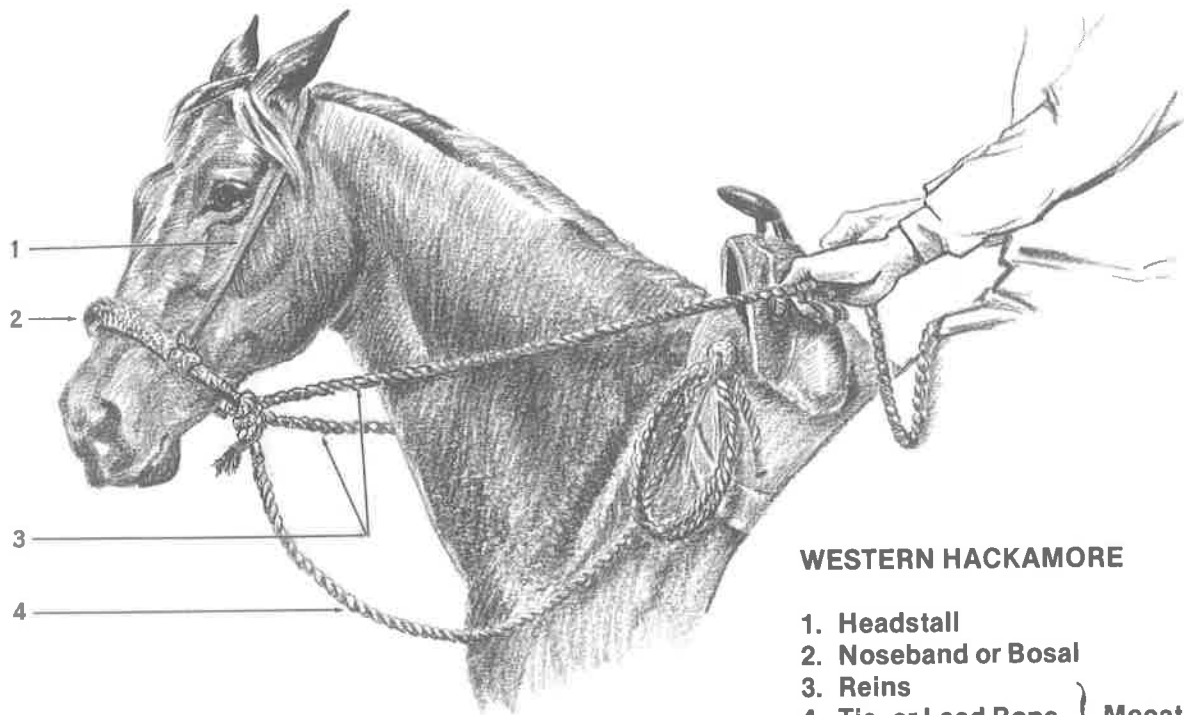
PELHAM BRIDLE

1. Browband
2. Cheek Pieces
3. Noseband or Cavesson
4. Curb Chain
5. Pelham Curb Bit
6. Crown-piece
7. Throat Latch
8. Lip Strap
9. Reins



SINGLE-REINED BRIDLE WITH SNAFFLE BIT

1. Browband
2. Cheek Pieces
3. Noseband or Cavesson
4. Snaffle Bit
5. Crown-piece
6. Throat Latch
7. Reins



WESTERN HACKAMORE

1. Headstall
 2. Noseband or Bosal
 3. Reins
 4. Tie, or Lead Rope
- } Mecate

Body Colors, Patterns, and Markings

You should know the horseman's language for describing the colors and markings of a horse. The following color guide is based upon the official rules of the Jockey Club for registering Thoroughbred horses. This guide will not only help you to describe your horse, it will assist you to fill out registration papers and competition entry forms.

BODY COLORS

Bay varies from a light yellowish tan (light bay) to a dark rich shade, almost brown, and between these a bright mahogany (blood bay).

Black can be determined by the fine black hair on the muzzle when in doubt between dark brown and black.

Brown appears black with fine tan or brown hairs on the muzzle or flanks.

Buckskin should be the color of a tanned deerhide. This animal also has black points—mane, tail, legs, and feet. Sometimes a buckskin horse has a black stripe down the spine from mane to base of tail or he may have a dark cross/line over the shoulders.

Chestnut varies from a dark liver color to a light washy yellow, between which come the brilliant red-gold and copper shades. Chestnuts never have black mane, tail, or points.

Dun varies from mouse color to a golden dun, and generally is accompanied by black points and ray.

Gray is a mixture of white hairs and black, sometimes scarcely distinguishable from black at birth, getting lighter with age.

Roans have two classes—red or strawberry—produced by the intermingling of red, white,

and yellow hairs; and blue, produced by the intermingling of black, white, and yellow hairs.

COLOR PATTERNS

Not all horses can be described by the body colors given in the Jockey Club color guide. Horsemen also use other color combinations, called color patterns. Here are some of the more common ones.

Appaloosa combines dark roan or solid color foreparts with dark spots over loin and hips, or white with dark spots over entire body.

Dappled have visible spots, either light or dark, overlying the basic body color.

Palomino is a golden body color combined with white mane and tail.

Paint or Pied (Pintos). **Piebald** is a white and black combination; **Skewbald** is white with any other color but black.

BODY MARKINGS

The Jockey Club officially describes the following markings:

Black points include a black mane, tail, and extremities.

Ray is the line down the middle of the back of some horses, particularly dun.

Zebra marks are the dark, horizontal stripes seen on the forearm, knees, and back of the cannon region.



STAR



SNIP



STRIPE



BLAZE



STAR, STRIPE
AND SNIP



BALD



STAR AND STRIPE



CORONET



HALF PASTERN



PASTERN



OUTSIDE
HEEL BOTH
HEELS



INSIDE HEEL
FULL STOCKING



ANKLE

HALF STOCKING

Selection, Conformation, and Judging

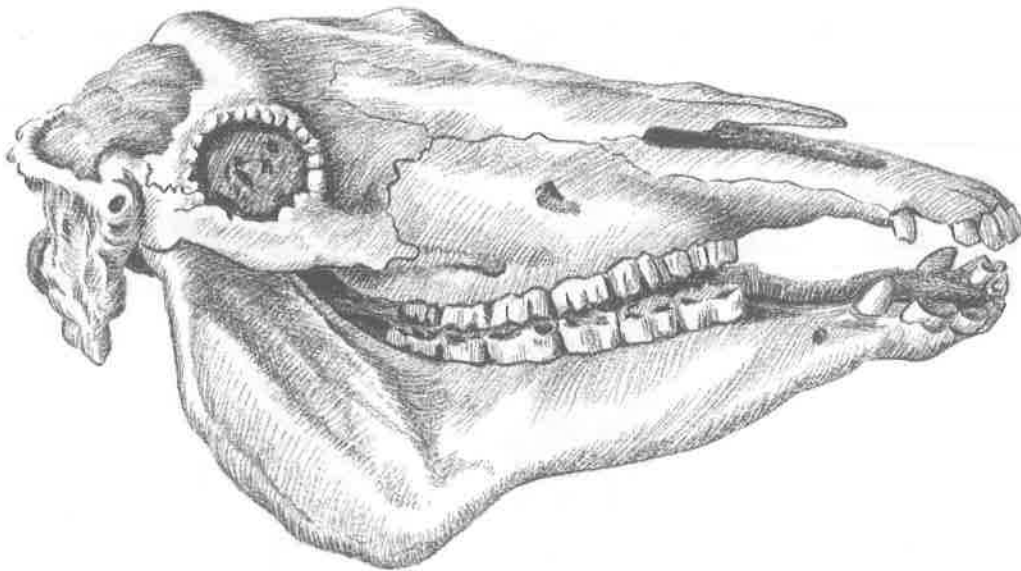
SELECTION

A basic knowledge of conformation will help you select the right kind of horse. However, it takes many years to see the faults of conformation quickly. Until you have sufficient experience, have an experienced horseman help you choose a horse. Meanwhile, look carefully at the horses you see. Compare one horse with another. You may never see the perfect horse, but you will train your eyes to detect differences between animals.

Every horseman should be able to tell something about the age of a horse by examining

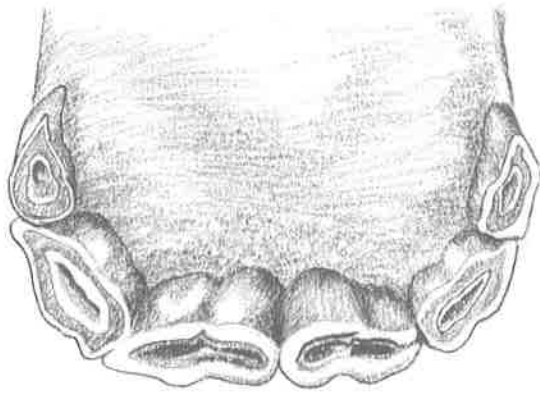
the front teeth. This you can do fairly accurately until the animal has passed the eleventh year. With a little practice you will be able to determine whether the animal is in a certain age period. These four periods are: foal's mouth, full mouth, smooth mouth, and old mouth.

The mature male horse usually has 40 teeth; usually the mare has 36 teeth. Twenty-four of these are molars and grinders, four are tushes or bridle teeth, and 12 are incisors or front teeth. The tushes usually are not present in the mare.



SKULL OF A MATURE HORSE

The young animal, whether male or female, has 24 temporary teeth, usually called "milk teeth." These milk teeth consist of 12 molars and 12 incisors. They are much whiter than the permanent teeth, and are replaced by the permanent teeth as the animal reaches 5 years of age. It is this change from milk teeth to permanent teeth that serves to determine the age of young horses.



← **FOAL'S MOUTH AT 2½-3 YEARS**

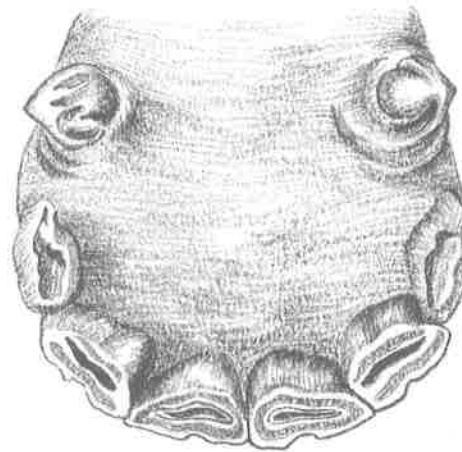
The central pair of milk teeth have been replaced by permanent incisors, two below and two above.

As the foal reaches 5 years of age, the change from milk teeth to permanent teeth usually is complete.

FULL MOUTH AT 5 YEARS →

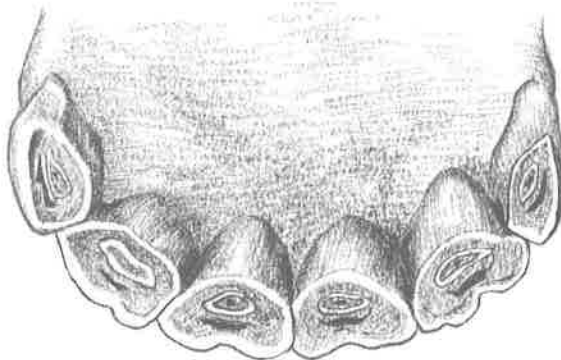
All the milk teeth have been replaced by permanent incisors. Tushes indicate that the animal is a male. The dental "cup" is well marked, showing little wear.

From the full mouth period on into the smooth mouth period, the age differences are shown by the degree of wear on the surfaces of the teeth.



← **SMOOTH MOUTH AT 11 YEARS**

The dental cup or cavity has disappeared. The teeth have a round, rather than an oblong shape, as seen in the full mouth period.



A. At 6 years.



B. At 20 years.

COMPARISON OF INCISORS AT DIFFERENT AGES

The old mouth period in a horse's life is marked by further wear on the surfaces of the teeth, but largely by the front teeth pushing forward at an oblique angle.



PARROT MOUTH

Parrot mouth, where the upper teeth overlap the lower teeth, is a good example of a defective mouth and is a highly heritable trait.

CONFORMATION

Look for and recognize these conditions in horses. Then weigh the good points against the bad. The words used to describe these features will have more meaning for you as you gain judging experience.

Desirable characteristics

Head: pleasing; wide between the eyes; eyes full and bright

Neck: refined and in proper balance with the head and shoulder

Shoulder: long and sloping

Back and loin: short, strong, and heavily muscled

Chest and flank: deep, wide, and full

Middle: deep and roomy

Ribs: long and well sprung

Legs: straight and strong, set squarely "over the cannon"

Joints: large, strong, neat, and clean

Undesirable characteristics

Weak constitution—narrow chest, long shallow body, shallow flank, long weak hock

Weak underpinning—shallow, flat, shelly feet; light weak cannon; crooked and weak hock

Unsoundness—spavin, poor eyesight, heaves, ringbone, curb splints close to knee, sidebones, fistula

Action and disposition

Although not part of the horse's conformation, action and disposition are very important to observe.

Action should be straight and free. A horse moves on his feet and legs; if they are weak or improperly formed, his usefulness is limited. A horse has poor action if he has straight shoulders; straight, short pasterns; crooked legs and feet; or a short, stubby gait. These may cause gait faults such as paddling or interfering.

Paddling, or winging (exaggerated paddling), is a minor gait fault which is unsightly and not desirable. The horse tosses the heels of his hooves outward laterally just as he lifts them from the ground. This defect is most common in young horses with gaits not yet "settled," and in toe-narrow or pigeon-toed

animals. "Tight longeing"—exercising young horses in a short rope circle—may encourage paddling. You can detect paddling by viewing the trotting horse from the rear.

Interfering is a common gait defect in which the horse strikes the inner surface of the hoof or lower leg with the hoof of the opposite leg. Most commonly seen in the forelegs, interfering may be only a nuisance or it may produce injury. Squaring slightly the hoof or shoe toe can correct mild cases of interfering. Severe cases may require rasping or cutting back that portion of the hoof or shoe that strikes the opposite leg.

A horse's disposition should be gentle and controllable. A horse may reveal bad temperament by: balking, kicking, rearing, backing, shying or halter-pulling. For further information see Leaflet 2807, *Selecting a Light Horse*, obtainable from your Farm Advisor.

JUDGING

When judging, follow an orderly system that allows you to see everything about the horse. First, get a good view of the horse from a distance. This helps you decide on conformation, width, height, type, and balance. Viewing the horse from a distance also helps you recognize features you cannot see any other way.

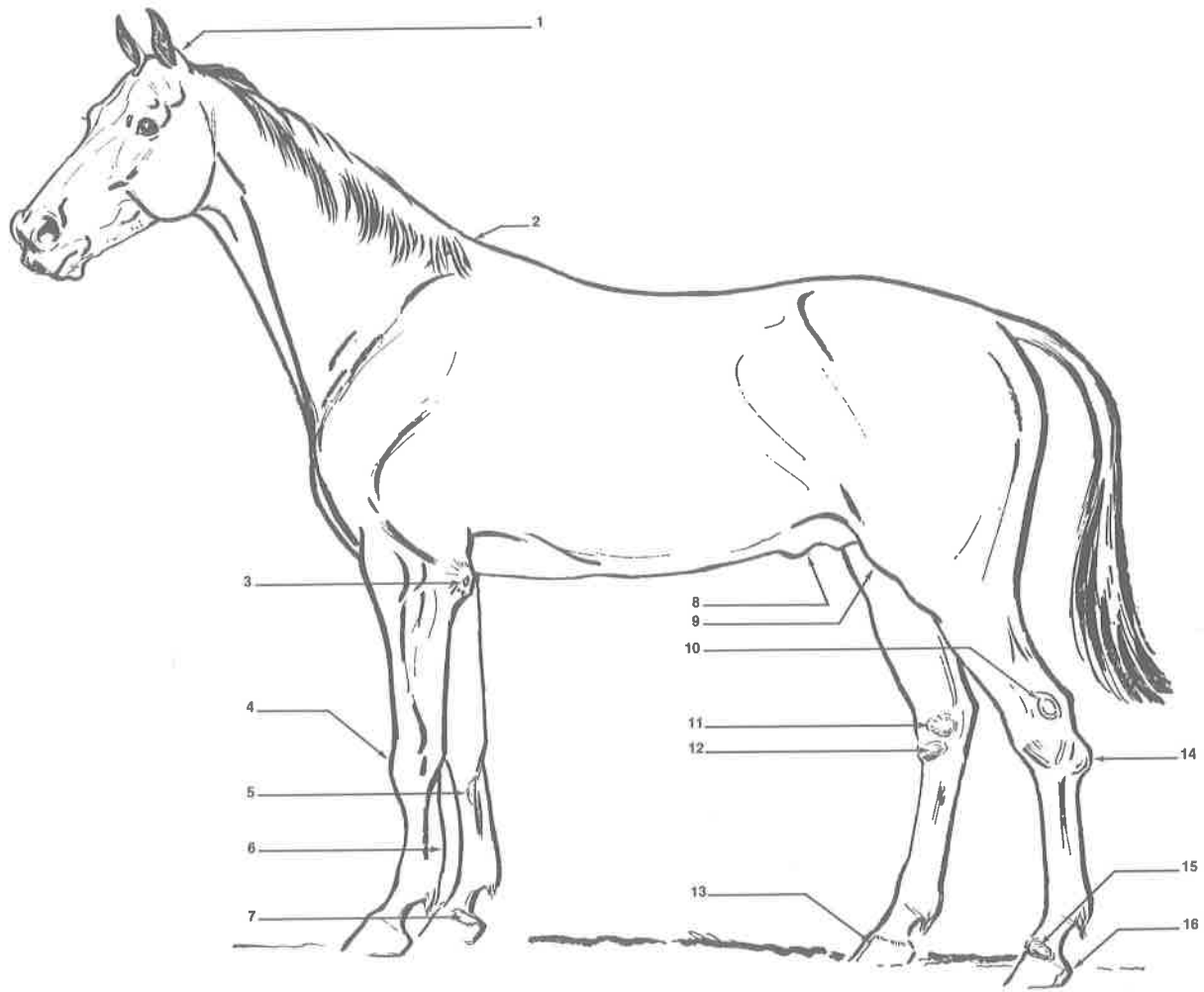
Inspect the horse closely from the front, from behind, and from the side. Inspect for soundness, type and quality of legs and feet, and quality and substance of bone. Feel the area immediately below the coronet, pasterns, and cannons with your hand. You can detect sidebones, ringbone, and splints this way.

Every horse owner should be able to recognize the common unsoundnesses, defects, and blemishes. When you examine a horse you should:

- observe the animal in a stall
- examine the horse at halter
- observe the horse in motion
- observe the animal after exercise

If you are suspicious or detect something you do not understand, call an expert and have the horse thoroughly examined.

See Leaflet 2808, *So You Want to Be a Horse Judge*, obtainable from your Farm Advisor.



UNSOUNDNESSES OF THE HORSE

- | | |
|---------------------|-------------------|
| 1. POLL EVIL | 9. STIFLE |
| 2. FISTULA | 10. THOROUGHPIN |
| 3. SHOE BOIL | 11. BOG SPAVIN |
| 4. OVER IN THE KNEE | 12. BONE SPAVIN |
| 5. SPLINT | 13. TOE CRACK |
| 6. BOWED TENDON | 14. CURB |
| 7. SIDEBONE | 15. RINGBONE |
| 8. HERNIA | 16. QUARTER CRACK |

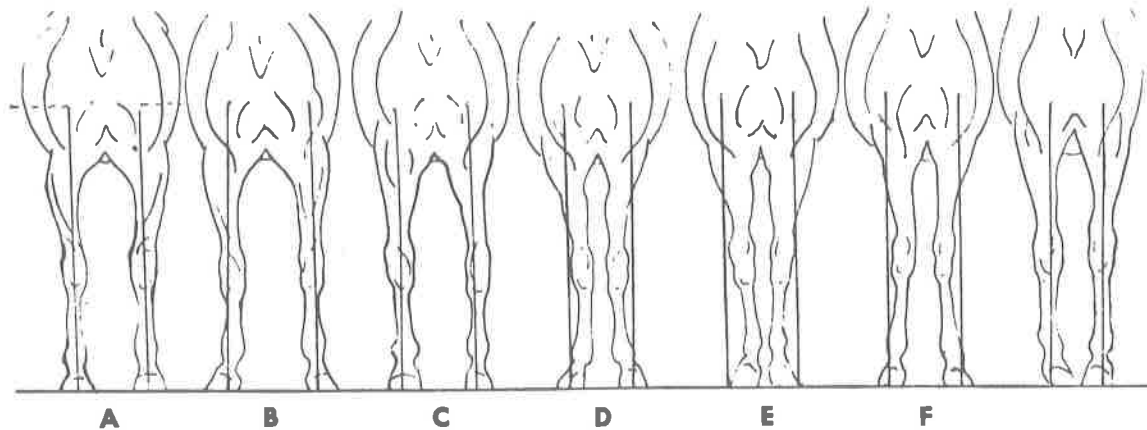
DEFINITIONS OF UNSOUNDNESSES

FEET:	Toe crack—a split in the front part of the hoof wall; may be partial, complete, or high or low. Quarter crack—a split in the quarter area of the hoof wall which is toward the heel. Seedy toe—a separation of the wall of the hoof near the toe.
PASTERN:	Ringbone—a bony enlargement surrounding the bones of the pastern. Sidebone—ossification of the lateral cartilages.
CANNON:	Splint—a bony enlargement in the groove formed by the splint and cannon bones; may be high or low, forward or back. Bowed tendon—an extension backward of the flexor tendons as a result of being torn or stretched.
HOCK:	Capped hock—an enlargement on the point of the hock due to inflammation of the bursa. Curb—an enlargement below the point of the hock. Thoroughpin—a soft, puffy enlargement in the web of the hock. Bog spavin—an inflammation of the hock joint characterized by distention of the joint capsule. Bone spavin—any bony enlargement on the bones of the hock.
HIP:	Knocked-down hip (hipped)—a fracture of the point of the hip.
KNEE:	Over in the knee—a bending forward of the knee. This may be congenital or due to injury.
ELBOW:	Capped elbow (shoe boil)—enlargement at the point of the elbow due to inflammation of the bursa.
BODY:	Hernia (rupture)—a protrusion of a loop of tissue through an abnormal opening.

UNSOUNDNESSES REVEALED BY PERFORMANCE

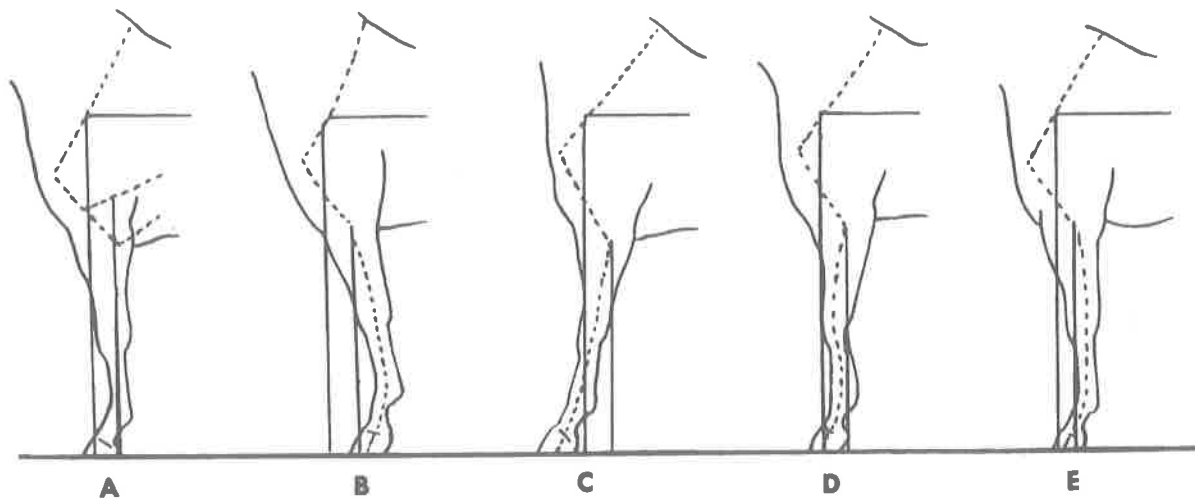
Heaves	—a forced or labored breathing characterized by difficulty of expiration and a chronic cough.
Roaring	—an audible sound produced on inspiration when breathing.
Stringhalt	—a peculiar jerking up (overflexion) of the hind leg when walking, trotting, or turning.

Location of Some Common Conformation Faults



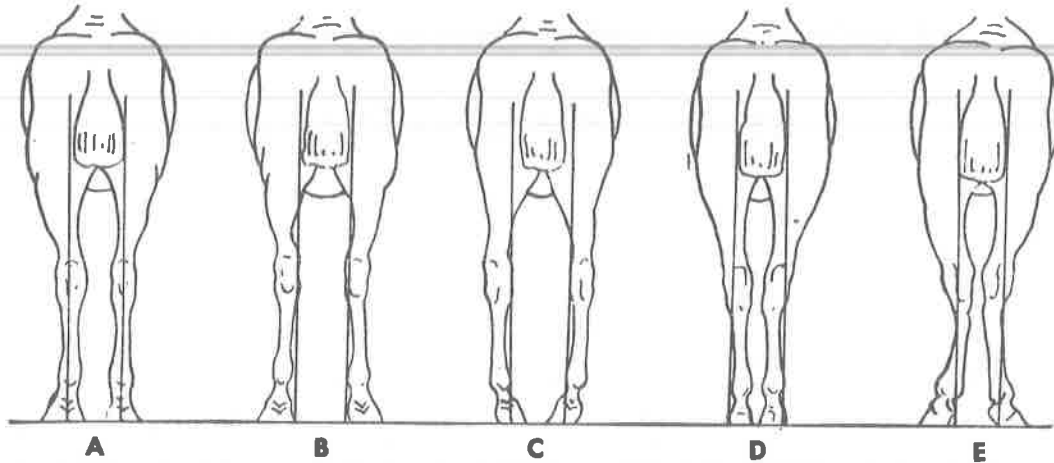
FRONT VIEW OF FORELEGS

A vertical line from the point of the shoulder should fall on the center of the knee, cannon, pastern, and foot. The right conformation is shown at A; in B the forefeet toe out; in C the bowed legs are weak; D shows the extreme of knees set close together with toes pointing outward, and horses with such conformation almost invariably interfere; E illustrates a form of conformation predisposing to interfering; in F the knees are set close together, showing a tendency to knee hitting; while in G, the subject will wing or throw out his feet as they are elevated, which retards action.



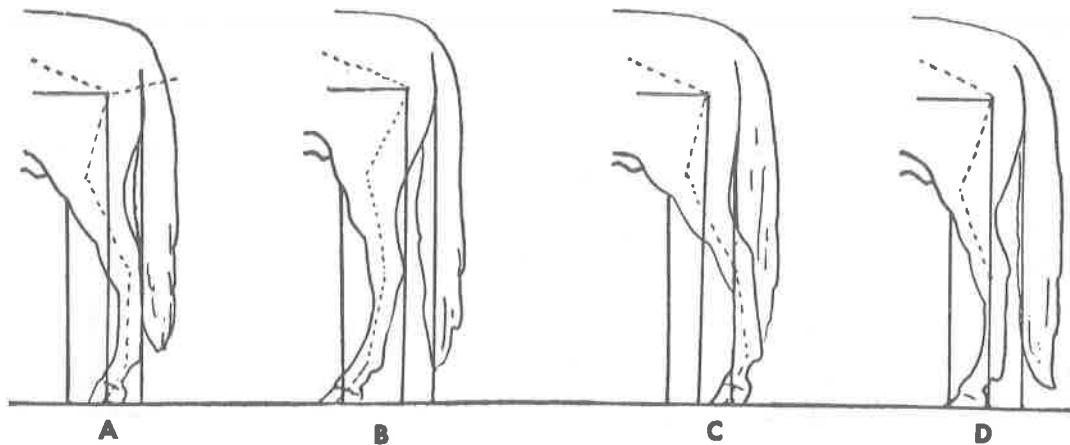
SIDE VIEW OF FORELEGS

A vertical line from the center of the elbow joint should fall on the knee and pastern and back of the foot, and a vertical line from the middle of the arm should fall on the center of the foot. A represents the right conformation; B shows forelegs too far under the body; in C they are too far advanced; in D, the subject is knee-sprung; and in E is illustrated what is commonly known as calf leg. Knee-sprung horses are apt to stumble; calf-legged horses often are sore in their forelegs after they have been used awhile.



REAR VIEW OF HINDLEGS

Viewed from the rear, the hind legs have the greatest strength when they have the direction shown in A. This direction is correct when a vertical line from the point of the buttock crosses the center of the hock, cannon, pastern, and foot. B shows hind legs set too far apart, tending to produce a sprawling gait. In C the hind feet toe in or are pigeon-toed, the joints being improperly formed, producing considerable undesirable lateral motion when the feet are carried forward. With such conformation the feet cannot be carried in a straight line. In D the hind legs are set too close together, predisposing the horse to interfere. The condition shown in E is generally known as cow hocked, and hind legs so formed do not have the strength of those in which the columns of bones are placed directly over one another.



SIDE VIEW OF LEGS

A vertical line from the hip joint should cross the center of the front and divide the gaskin in the middle; a vertical line from the point of the buttock should coincide with the back of the cannon. In B, the hind legs stand too far under the body (sickle-hocked); in C, the hind legs are set too far back; and in D, the hock joint is too straight.

Fitting and Showing Your Horse

You probably will exhibit your horse both at halter and under saddle. Showing under saddle varies so greatly, depending on the type of riding you do, that it will not be discussed in this manual. However, some general rules about fitting your horse to present him at his best for show apply to all kinds of competition.

FITTING YOUR HORSE

“Fat is a good color.” Your feeding program should insure that your horse arrives at the show in good condition, evenly covered with fat so that ribs, hip bones, and the top of the rump do not show prominently. Do not allow your horse to become overly fat or show a hay belly. A grain ration and proper exercise will help to bring your horse up to condition.

Clean, short, and shiny hair is essential for a horse to look his best. During the summer, grooming and blanketing will do the job. In winter, clipping may be necessary. Always blanket a clipped horse. Coarse, long hair which stands up during the summer months usually is a sign of poor health, probably due to parasites, poor teeth, or bad feeding. Washing helps clean an animal, but makes the hair stand up. Therefore, wash your horse a day or two before showing, whenever possible. Direct sunlight while waiting to go into the ring also makes the hair stand up. It is a good idea to keep your animal in the shade or under a light blanket while waiting.

Thoroughbred and quarter-horse types usually have their manes and tails pulled or roached with clippers. Manes can be from 6 to 12 inches long, and tails should be about hock length. When pulling, take only a few of the longest hairs at a time and jerk sharply. Do not pull slowly. When quarter-horses are shown with roached manes, the forelock and a small wisp of mane over their withers are left at about 4 to 6 inches long.

For a neater appearance, you may trim the short hairs around the muzzle and chin and the fuzz on the inside and outside edges of

the ears, either with small electric clippers or hand shears. A path for the bridle and halter immediately behind the ears often is trimmed also. Trim some of the long hair from the legs and fetlocks and around the coronary band. Oiling the coat is not acceptable. Mild bleach solution can take stains from white or light-colored hair.

A plain leather halter and a leather lead strap with a metal chain are the best equipment for showing your horse in hand. However, any simple halter and rope, or a plain bridle, can be used. Avoid showy or flashy outfits for halter classes.

SHOWING YOUR HORSE

Horse showmanship is just as much a skill as showing other livestock. Show off your horse's best points and hide the worst. Pay attention to your horse at all times. Do not get between the judge and the horse. It is all right to try to get a favorable position in the ring, but remember good manners and sportsmanship. Treat your fellow contestants as you like to be treated.

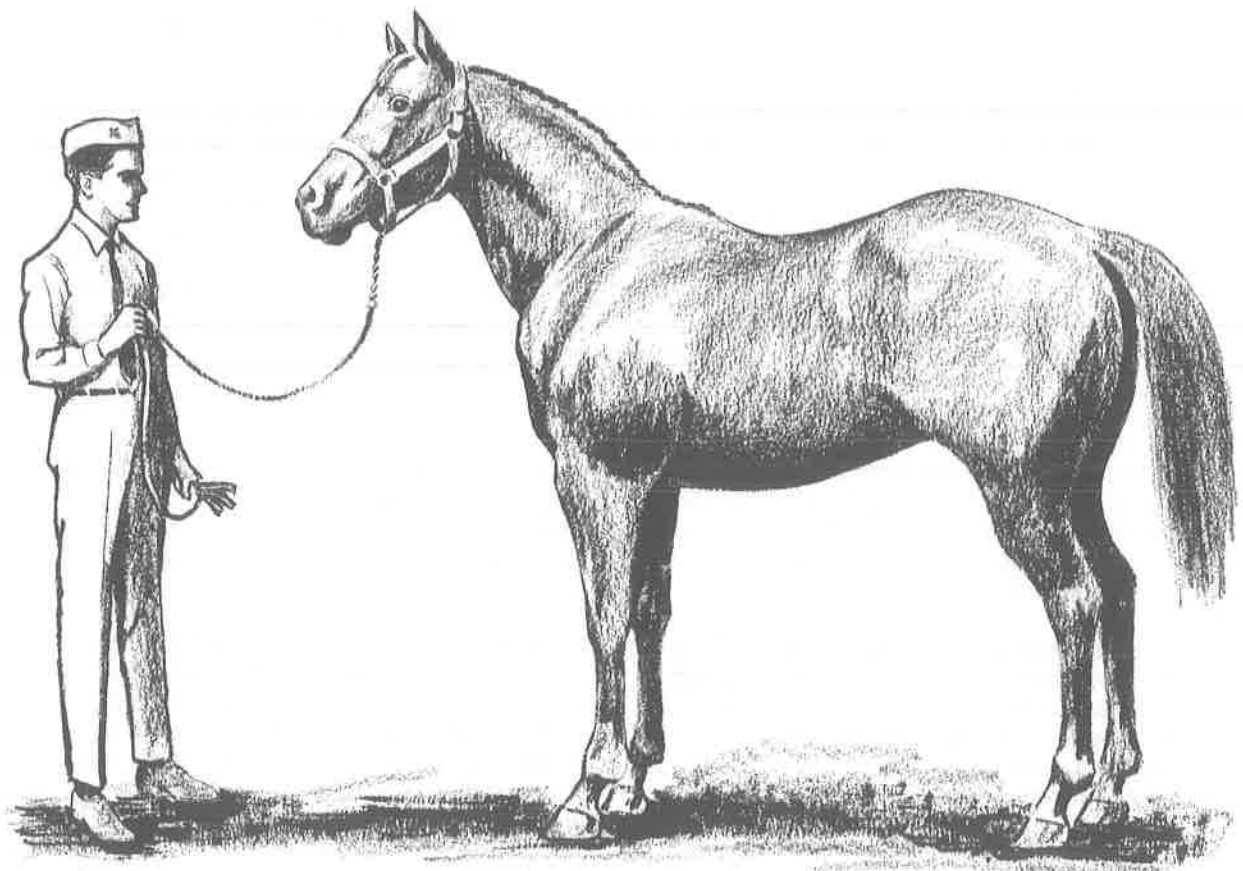
Lead your animal from his left side. Walk slightly behind his head. Hold the lead strap about 18 inches from his head with your right hand. The remaining lead strap or rope should be folded neatly and may be carried in either hand. Keep him alert but with the head in a natural position.

Utility breeds should stand with all four feet squarely under them, with head and neck extending forward almost level with the body. Saddlebreds, walking horses, and Shetland ponies should stand slightly extended, but not spread so far that they show a weakness in their back. The head and neck should be held high. Some individuals of the utility breeds show to greater advantage when they are not standing perfectly square.

If the ring is not completely level, be sure that the front end of the horse is always higher than the rear. Always know where the judge

is. Never let your body obstruct his view. Get your animal in position and ready for the judge before he looks at him, not during his inspection. Step aside if the judge wants to make a front inspection. Turn your animal's head slightly in the direction of the same side handled by the judge. If horses are lined up head to tail, allow enough room between the horse in front of you for the judge to pass between animals without danger of being kicked.

When the judge asks that the horse be walked and trotted, go directly away from the judge, stop your horse momentarily before turning to the right, and return directly toward him. Stay to one side to give him an unobstructed view of the horse in action. Keep your body at right angles to your horse. Move parallel with the horse and hold the lead in the right hand about 18 inches from the halter. Don't look back. **Always turn to the right, pushing your horse around the turn. Don't pull.**



Explanation of Scorecard

HORSE SHOWMANSHIP

POINTS

A. Appearance of animal

1. Condition and thriftiness should show normal growth, neither too fat nor too thin.
2. Grooming
 - a. Hair should be properly groomed, and the hide soft and pliable.
 - b. Hoofs should be trimmed and shaped to enable animal to walk and stand naturally, or properly shod and polished.
 - c. Ears, tail, mane, legs and elsewhere should be clipped as needed.
 - d. If entire body is to be clipped, do it well in advance of the show.
3. Cleanliness
 - a. Hair, tail and mane should be clean and free of stains.
 - b. Hide, ears, nostrils and dock should be free of dirt, and legs and feet clean.
 - c. Halter and lead strap or rope should be clean, neat, and workmanlike.

B. Appearance of exhibitor

Clothes and person should be neat and clean.

C. Showing animal in the ring

1. Moving or leading
 - a. Enter leading the animal at normal walk around the ring in a clockwise direction walking slightly behind the head on the left side, holding the lead strap (or rope) with the right hand about 18 inches from the halter with the strap neatly, but naturally (not necessarily coiled), gathered in either hand.
 - b. Animal should lead readily and respond quickly.
 - c. Halter should be of right type, properly fitted and correctly placed on animal. A leather halter with leather lead strap is desirable but not necessary.
 - d. Lead slowly with animal's head held to look alert, stylish, and for attractive carriage and graceful walk.
 - e. When you are asked by the judge to show the action of the animal at the walk and trot, lead horse in a straight line away from and back to the judge. After leading animal away from judge, stop momentarily, and then turn in a clockwise direction before coming back.

2. Posing

- a. When posing and showing your horse, stay on the animal's left side or left front and stand facing at an angle where you can see the position of feet and topline.
- b. Pose your horse with its feet placed as squarely under him as possible.
- c. Don't crowd the exhibitor next to you. Don't leave enough space for another animal when you lead into a side-by-side position, but leave enough room for the judge to walk between horses.
- d. When judge requests that positions be changed, do not disturb other horses in the class. Do not lead your horse between the judge and a horse he is observing.
- e. Do the showing with the halter lead strap, and do not step on animal's feet to move them. Do not use crop or stick for moving the horse.
- f. Move your horse forward and backward by a slight pull on the lead strap. Don't wrestle your horse to move him.
- g. When judge is observing your horse, let the horse stand if he is posed reasonably well.

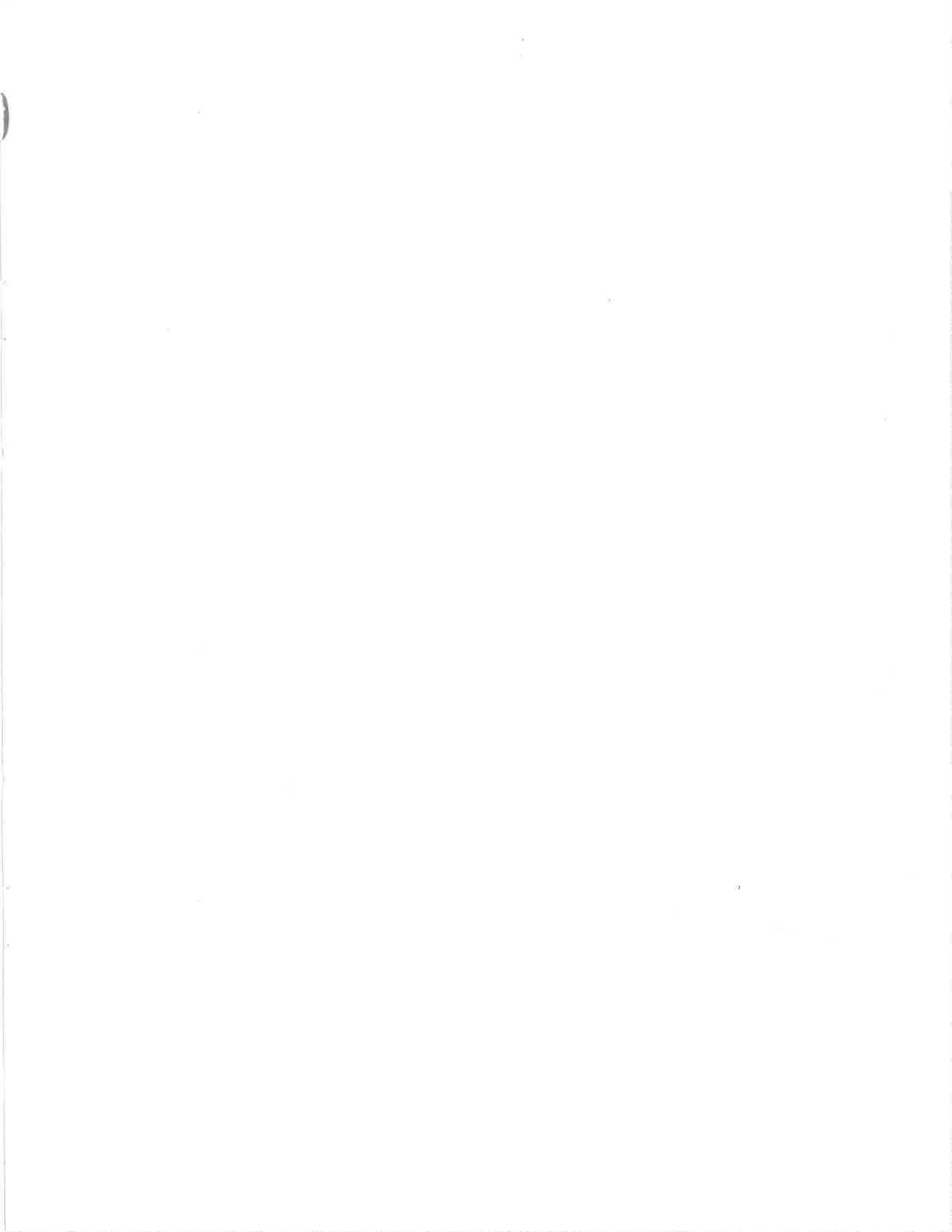
3. Show animal to best advantage

Quickly recognize the conformation faults of the animal you are leading and show him in such a manner as to overcome them.

4. Poise, alertness, and attitude

- a. Keep an eye on your animal and be aware of the position of the judge at all times. Do not be distracted by persons and things outside the ring.
- b. Show animal at all times and not yourself.
- c. Respond rapidly to requests from the judge and officials.
- d. Be courteous and sportsmanlike at all times.
- e. Keep showing until the entire class has been placed and the judge has given his reasons.

TOTAL	



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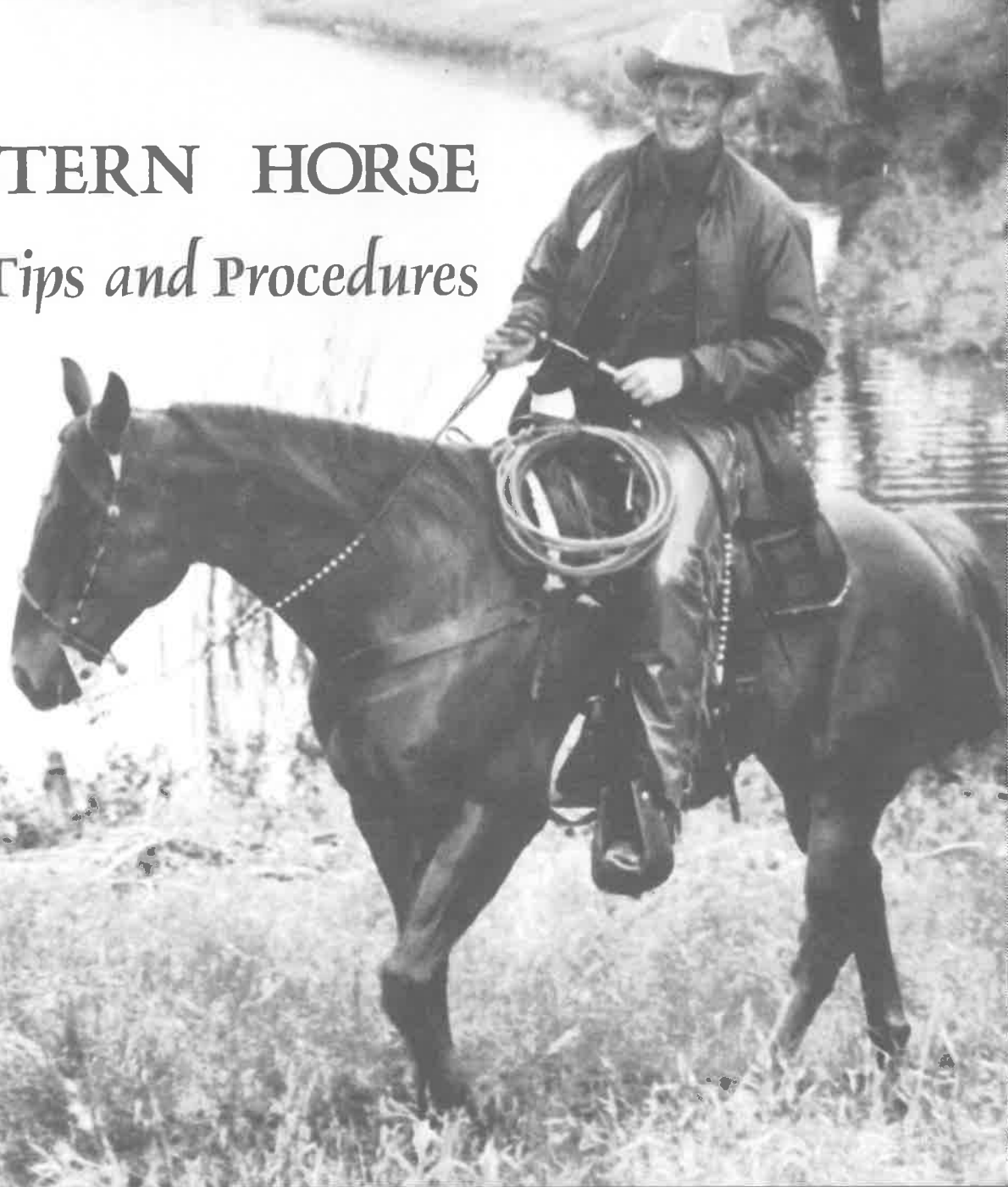
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THIRD CLASS

Training

THE WESTERN HORSE

Tips and Procedures



Division of Agricultural Sciences
UNIVERSITY OF CALIFORNIA

PRINTED APRIL 1979

LEAFLET 21088

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Training

THE WESTERN HORSE

Tips and Procedures

By

*Reuben Albaugh
Extension Animal Scientist, Emeritus,
University of California, Davis*

The art of horse training has been practiced since horses were domesticated 5,000 years ago. This art has been handed down from generation to generation by word of mouth and by demonstration.

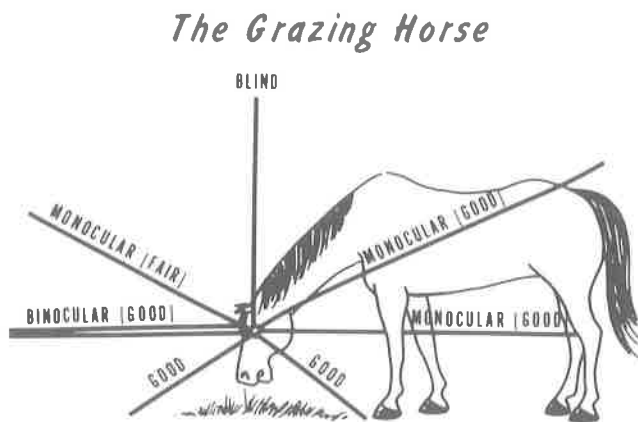
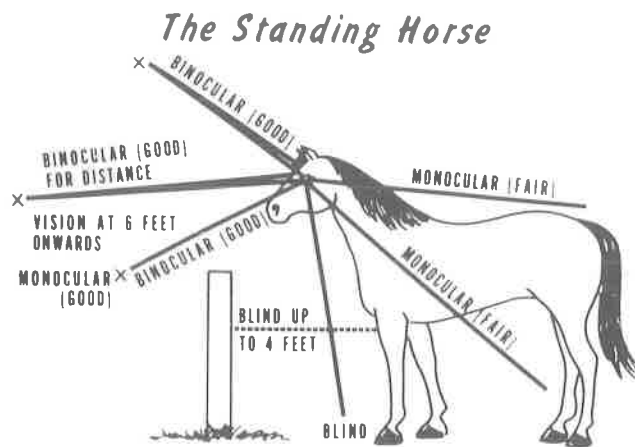
Training a horse today is both art and science. Training is horsemanship. It is just as important as selecting, feeding, and caring for a horse; a poorly broken horse is worthless or dangerous. Training is learned mostly by experience and always with the aid of an experienced person. Studying written material is recommended, but it is no substitute for advice by a qualified trainer. There are many methods used in training horses, but there are only a few good ones. Would-be trainers should become familiar with these fundamentals:

1. Be firm but gentle.
2. Be quiet—move slowly and avoid any excitement.
3. Control your temper.
4. Teach your horse one lesson at a time.
5. Always end a lesson on a good note.
6. Don't overwork your horse—or you will make him mad and he will not respond properly.
7. Start training at an early age; young horses learn faster and there is less danger of injury to trainer and horse.

HORSE BEHAVIOR

Training is easy and more successful when the trainer is familiar with the horse's behavior. For example:

1. The fact that horses can see in front as well as behind at the same time is important. Horses are color-blind, but they can see well at night. To focus their eyes, they raise and lower their heads. In spite of this good eyesight, there is a blind spot, 4 feet in front and 4 feet to the rear of the horse. Because of this unusual vision, it is important to approach the horse from an angle not directly in front nor directly behind. (See Leaflet 21002, *Horse Behavior*.)

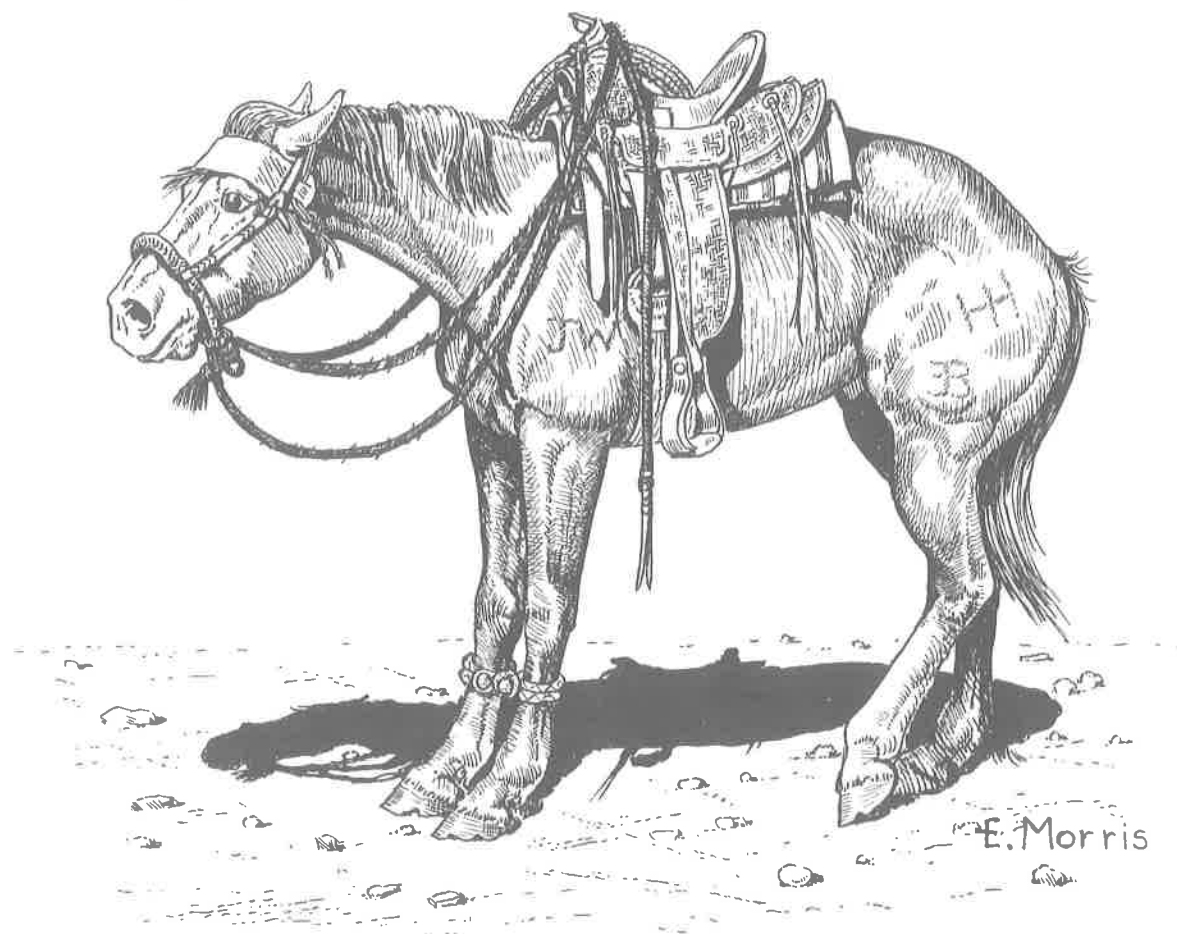


The type and degree of a horse's vision depend upon the position of his head and the location of the object he is viewing. The illustrations are from *Vision in the Animal World* by R.H. Smythe (New York: St. Martin's Press).

2. Horses have a highly developed sense of smell. If they become frightened of some object, they usually become quiet if they are allowed to smell it. Before saddling a horse for the first time, allow him to smell the blanket and saddle.
3. The hearing of horses is keen. Speak to a horse in a low voice; this calms him and his ability to learn is increased.
4. Several areas on the horse's body are especially sensitive: the mouth, the ears, the flank, and the ribs. To avoid bad habits it is important to bridle the horse carefully. Spurring the horse in the ribs and flanks will cause him to buck. (The reason that a flank strap is used on a rodeo horse is because it makes him buck harder.)
5. Horses have an excellent memory. They remember bad habits as well as good ones. Therefore, it is important to avoid mistakes, especially during early training.
6. Horses are gregarious. They have a strong herding instinct and are more content in groups.
7. When fearful, horses tend to run away. When cornered, they may strike or kick.
8. Horses have a strong self-protective instinct when caught and handled for the first time and will usually fight for freedom. It is this self-protective trait that has enabled the horse to survive for millions of years. Therefore, the trainer should impart to the horse that he is not going to hurt him.

FIRST STEPS IN TRAINING

In the days when large herds ran on open range, horses were 5 or 6 years old by the time they were broken. When a horse was to be trained, he was driven into a corral, roped by the front feet, jerked down, haltered, and one hind foot tied up. He was



Two pieces of restraint equipment, hobbles and blindfold, are illustrated here.

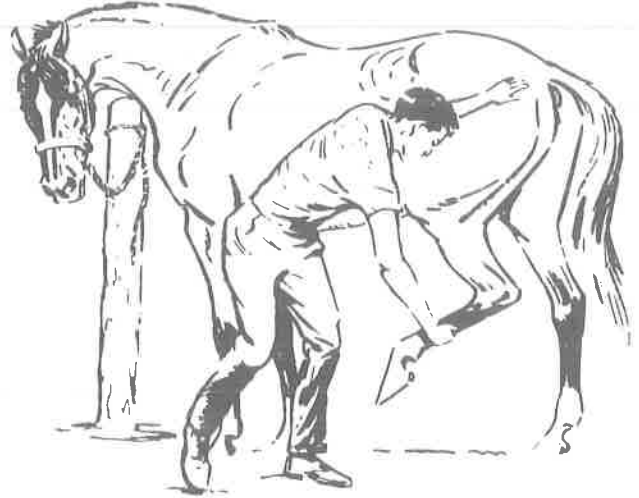
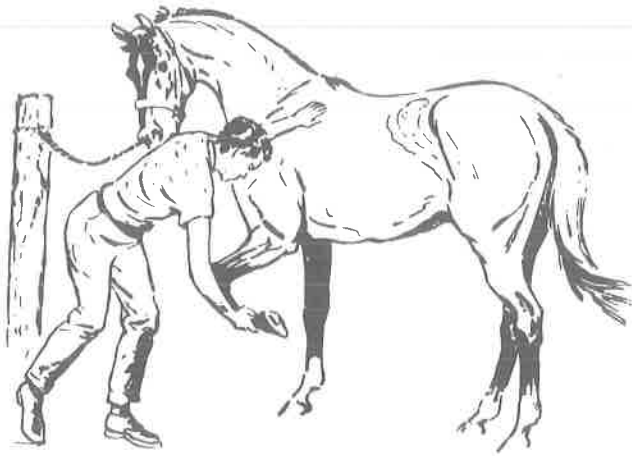
then bridled, saddled, and blindfolded. The foal was untied and the rider mounted and took off the blind. In most cases the horse would then buck and run. After a few days the horse learned that the cowboy was not going to kill him and he gradually lost his fear of man. This rough-and-ready training usually produced undependable horses that bucked at the drop of a hat.

HALTERING

Horse training is easier today when it begins at an early age. A foal, a few days old, can be haltered and trained to lead by gently pulling first to the left and then to the right. The colt learns that when he stops resisting the pull, pressure is relieved, and he soon learns to lead.

A halter can easily be slipped on a young foal that is a couple of days old. To halter a yearling or 2-year-old, first place him in a small corral, toss a loop over his head and gently pull in the slack. Approach the horse from the left side and place the halter rope over his neck from that side. Open the halter and place it over the nose of the horse, bring the halter strap up over the horse's poll and adjust it.

During these early stages, groom the colt, pet him, and talk in a low voice. This is an excellent time to start picking up his feet so that he becomes accustomed to it for purposes of foot care or shoeing. Begin first with the front feet, lifting first one foot and then the other. Next train him to yield his hind legs, one at a time. (See illustrations.)

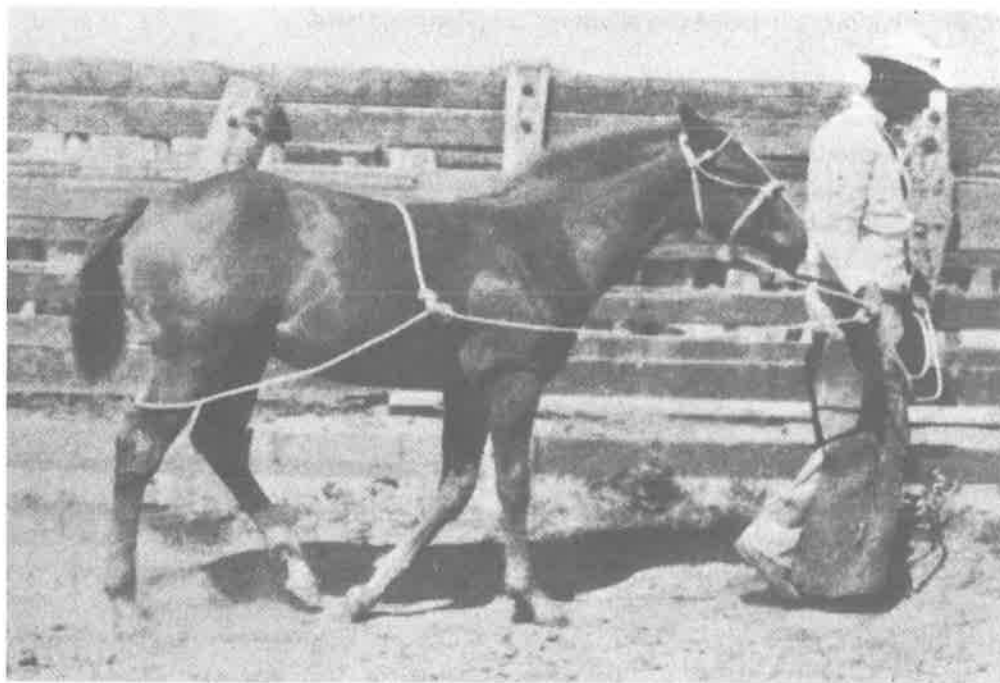


The proper way to pick up a horse's front footand the proper way to pick up a horse's hind foot.

TRAILER LOADING

Because horses are either hauled by trailer or truck to shows, rodeos, or to gather cattle, they must be broken to load easily as soon as they are well versed in leading. Before attempting to load a foal, place its mother in the trailer. This should make loading easier. If the foal objects to entering the

trailer, a rump rope can be used to encourage entry. (See picture of proper application of rump rope.) Apply the rump rope only when the foal refuses not to lead by the halter. As soon as it enters the trailer, reward it with something to eat. This lesson should be repeated every few days until loading becomes easy.



A rump loop is used in teaching young horses to lead and to trailer-load.



A single-reined bridle with snaffle bit.

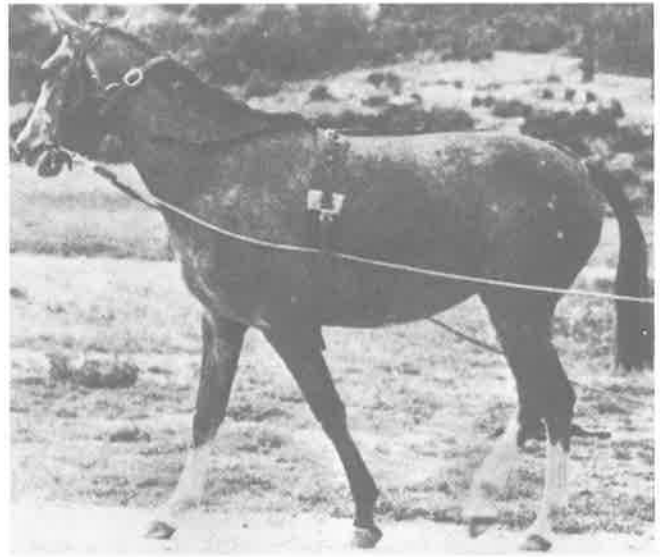
BRIDLING

When your horse is a year old, introduce him to the bridle and saddle. A snaffle bit is used in this early training. Because most horses are sensitive about the ears and mouth, bridling should be performed carefully. It is good to get a horse bridled by driving him around a small enclosure with two lines fastened to the bit (see picture).

To bridle a horse first untie him. Drop the nose-piece of the halter off the nose and refasten the strap around the neck with the halter rope over the right arm. Spread the head stall of the bridle with the right hand and grasp the bit with your left. With the thumb and forefinger of your left hand gently open the mouth of the horse, slipping in the bit. Next move the head stall of the bridle over the right ear by bending the ear forward, then insert the next ear and fasten the throat latch, allowing plenty of room between this strap and the horse's throat.

SADDLING

The next lesson is saddling. Horses that are gentled at an early age will usually accept a saddle. It is good practice to allow the green colt to smell this equipment before placing it on his back. After the horse is bridled and saddled, lead him around the



Driving equipment used in teaching the horse to become bridledwise.

corral a few times. Do not cinch the saddle too tightly. He can then be turned loose in a small corral to accustom him to the saddle. During this period the bridle reins are tied loosely to the saddle horn. It's a good idea during this training period to observe the horse closely.

MOUNTING

Following this lesson, a horse is ready for mounting. He should be taught to stand perfectly still until given a signal. Sometimes it may be necessary to tie up a horse's hind foot or to hobble him. A few days of this treatment usually produces results.

Mounting is the first step in riding. Before mounting your horse, see that your bridle is properly fitted, your saddle correctly cinched and the right stirrup set so you can slip your foot into it the instant you mount. The approved method of mounting, especially with a "green" horse is as follows:

First: Stand near the horse's left shoulder facing the rear. Then, take up the reins in your left hand short enough to hold your horse still. Place your left hand over his neck a few inches ahead of the saddle. A handful of mane along with the reins will help. If mount-



Snubbing a young horse to the saddle horn of a gentle horse in preparation to mounting.

ing a roach-mane horse, put pressure on his neck far enough forward to keep your balance when you step on.

Second: Turn the left stirrup around with your right hand and put your left foot in the stirrup. Put your foot in the stirrup only to the ball of your foot.

Third: Place your left knee against the horse's shoulder, take the saddle horn in your right hand and step up.

Fourth: Swing your right leg over the horse, put your right foot in the stirrup and you are ready to ride. If your horse moves out before you are ready, stop him and hold steady for a few seconds so that he learns not to go until you give him the signal.

DISMOUNTING

Dismount by first taking up the reins as you did when starting to mount. Slip your foot backward in the stirrup with your weight on the toe only, take hold of the saddle horn with your right hand and swing off your left knee against the horse's shoulder. As your right foot touches the ground, turn your left foot up in the stirrup to avoid getting "hung up."



Three examples of hobbles.

SITTING

Sitting your horse properly is important. First, adjust the length of the stirrups until you can raise yourself about three inches off the seat of your saddle. With stirrups the proper length, a good "seat" is achieved when you sit erect with more weight on your own legs than on the horse's back, your legs nearly perpendicular from the knees down, your heels down, and your toes slightly out. This position will keep most of your weight near the horse's center of gravity—about six inches behind his elbow.

FIRST RIDE

When the young horse is a year old, the first ride can be performed in a small corral. After the rider (small and light in weight) is mounted, a second person should lead the horse until he becomes accustomed to someone on his back.

After this schooling, the horse is then allowed to run free and is not handled until he is a 2-year-old in order to grow and develop.

Well-grown 2-year-olds can receive further training under the saddle. Remember this horse has been gentled as a foal, is broken to lead, has been bridled, saddled, and taught to stand while mount-

ing, and can be loaded into a trailer. When starting the 2-year-old's training, previous lessons should be gently and carefully reviewed. If the horse should fuss about saddling, mounting, etc., tie up one hind foot or hobble the horse.

FIRST RIDING LESSON

The first riding lesson for the 2-year-old should occur in a small corral. A snaffle bit, the most widely used kind of bit, is usually used, although some trainers prefer a hackamore, particularly for cowhorses. After mounting, it is good to have someone on a gentle horse lead the colt. This will allow the "green" horse to become accustomed to rider and saddle. For the first few days, the horse is ridden at a walk. During this training four aids are employed: the hands, the legs, the weight, and the voice.

After mounting this young novice, the rider should start the horse at a walk by pulling left on the left rein and leaning in that direction, at the same time gently putting pressure in the horse's ribs behind the cinch with the right heel. The hands, by using the reins, control the front end of the horse; the legs control the hind quarters. The weight signals the emphasis given by legs and hands. Remember: force should not be used in applying these aids.



A young horse in the snaffle bit learning to work cattle.

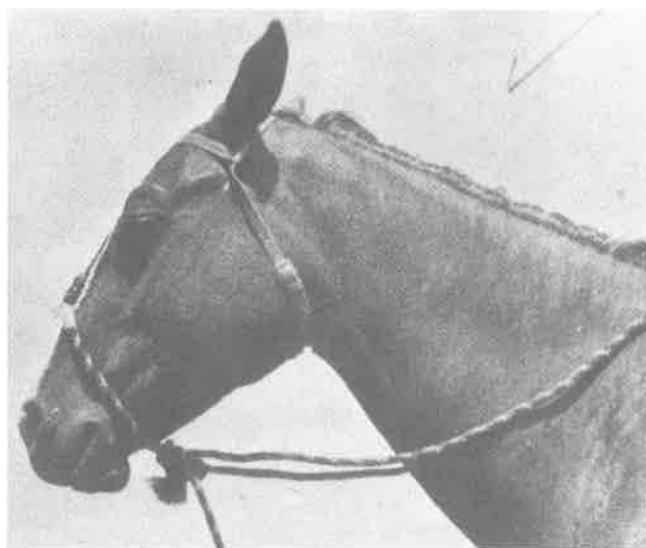
Light hands and a soft voice result in a velvet mouth and good manners.

After the horse has been walked for several days, it is then urged to trot. Training in this gait is continued for several days. From the trot the horse is urged into a lope. As training advances, the horse gradually learns to start immediately into a trot and, later, immediately into a lope.

REINING

Teaching a horse to rein is usually done with a snaffle bit or hackamore. This lesson is started when the horse is standing or walking slowly. To turn to the left, pull on the left rein, lean to the left and press the right rein against the neck. For a right turn the maneuver is reversed. After the horse has learned to rein at the walk, the maneuver can be administered at a trot and at a lope. Herding cattle can help a rider improve the reining procedure. When a cow turns, the horse has a reason for turning also.

Horses with "cow sense" soon learn the reining lesson. In teaching reining, practice by cutting a few animals out of the herd. This is excellent schooling for the cow and/or pleasure horse.



This is a hackamore used to train young horses to rein, stop, and back.

BACKING

Begin backing lessons when your horse is a yearling. Stand in front of him and pull back intermittently on the halter rope or reins, pushing him away from you. If he will not yield to this pressure, touch or slap him on the chest and, if necessary, use a stick or a spur held in your hand. Pull intermittently on the lead rope or reins; then push or slap him on the chest.

As he learns to move back, try not touching him on the chest until he will back from pressure on the halter rope or reins alone. After learning to back him from the ground, try him mounted. Pulling on the reins should make your horse step back. However, do not sit back too far as this will make it hard for him to move his hind legs. Sitting slightly forward will help your horse in backing. It is not natural for horses to back, so this lesson should be taught only for short periods of time.

STOPPING

To teach your horse to stop, start from a walk and pull up on the reins intermittently while sitting

down in the saddle. Urging him toward a fence will give him a good reason to stop. Do not use such barriers any longer than necessary. When your horse has developed a fair ability to stop at a walk, you are ready to try stopping him at a trot, then later at a lope.

In stopping from a lope do not pull on the reins and lean back in one motion. Instead, signal to your horse by pulling up slightly on the reins as he hits the ground with his lead foot. Then, as his hind legs come under him, move your feet forward, apply pressure with the lower legs, give the reins a second pull and sit down. Leaning back too far on the stop will make it harder for your horse to get his hind feet under him and may make him stop on his front feet. Raising your weight forward in the saddle will make it easier for your horse to get his hind legs under him and make a smooth, sliding stop.

Young colts must not be overworked on sliding stops as the pressure on their hind legs may injure them. The strain on the immature tendons and bones can injure the hind legs. This lesson can be taught when the colt is a 2-year-old.



An excellent, well-balanced sliding stop. Note the position of the rider's seat and hands, and the position of the horse's head and feet.

CHANGING LEADS

During this training, the horse is taught to change leads; in this way training is accomplished.

To put your horse into a canter or slow gallop on the left lead, "gather" him and sit back slightly in the saddle. Press him with your right leg or spur well back so as to push his hindquarters toward the left; at the same time urge him into a fast gait. Place your left leg slightly forward, and as your horse moves out, you will find yourself twisting slightly to the right. If your horse has a rough gait, this motion will be marked. If he moves lightly or becomes well-schooled, this motion is hardly noticeable.

To change leads from left to right, while moving at a gallop, spur your horse well back with your left leg, while shifting your weight forward on your right leg and at the same time reining him to the right. Knowing how to change leads will make quick changes of directions much easier for both your horse and you. A quick, easy response to a change of leads connotes a good cowhorse or polo pony. Changing leads on the straightaway also will

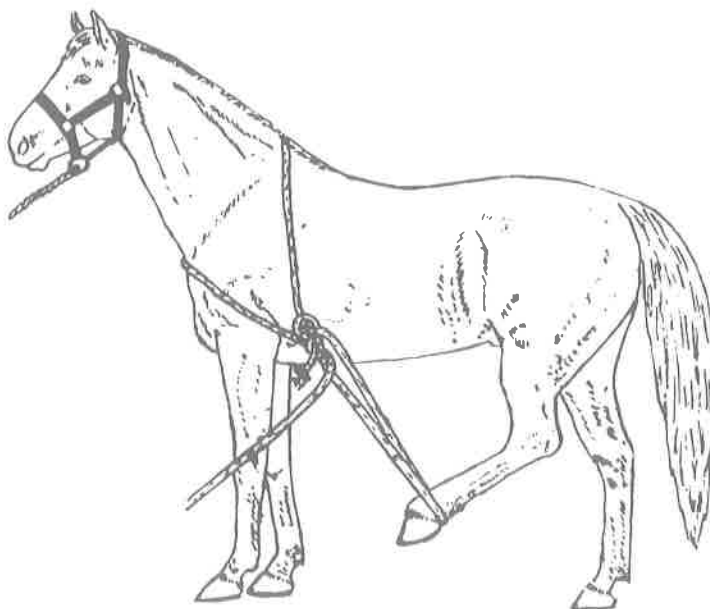
extend endurance of both horse and rider and will prevent fatigue.

Training to change leads begins with learning what lead your horse prefers to follow. If he will not change readily to the opposite lead, trot him in a big circle in the direction of the lead you want and push him into a gallop. Then, keep him on that lead for one or two minutes.

Another way to start him on the opposite lead is to trot him at an angle toward a fence and break him into a canter just as he comes to the fence. Once your horse learns to canter on both leads, work him on each lead until he changes freely from one to the other.

SPINNING

To teach a horse to spin, start from a figure 8 position. In making a figure 8, gradually make the figure smaller, and when the lead is changed, turn the horse in a 180-degree angle to the left and



This illustrates a proper way of tying up a horse's hind foot. To use this "scotch hobble," use between 25 and 30 feet of $\frac{1}{2}$ -to $\frac{3}{4}$ -inch rope (cotton rope is preferred). First tie a loose loop around the horse's neck, using a bowline knot. Then take the other end of the rope and walking behind the horse have the horse step over the rope so that the rope is between his two hind legs. Drop the rope around the left fetlock, take a couple of twists in the rope, and bring it up in the loop around the neck, pulling the foot off the ground, and tie the rope in the loop around the neck, using two half hitches.

repeat this maneuver to the right. This lesson should not be repeated too often because the horse may become bored and "sour." When this spin is perfected, a reward, such as petting, is desirable. The spin is taught mainly to cowhorses and is performed when the horse is doing dry work—not working cattle.

DOUBLE REINS

A spade bit (see picture) is usually used on finished cowhorses. To get the horse used to this bit, the trainer usually uses the double rein, in which a hackamore is employed with a spade bit. At first no pressure is put to the reins of the bit. The horse is controlled completely by the hackamore. After several weeks of carrying the bit, the trainer starts to control the horse with the reins on the bit. Eventually the hackamore is removed and the horse is said to be "straight up in the bit." Spade and curb bits are also used on pleasure and trail horses.

A FINAL WORD

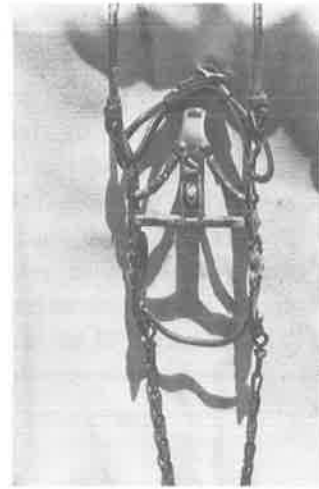
It should be remembered that 2-year-old horses are worked lightly. Three-year-olds can be given more work; at 5 years old, a horse should be able to perform a full day's work.

Never deaden the nerves of the mouth, the ribs, or the withers through rough, painful, and long-continued use of these areas. Such a practice will only create such bad habits as switch-tails, cold mouths, and high heads.

A green horse should be corrected (not punished) when he fails to respond correctly to the aids, but reward him when he performs correctly. Frequent use of a pat on the neck in conjunction with a verbal, "Good Boy," will help the young horse to understand what is expected of him. He will try harder the next time. Thus, timing is important when correcting or rewarding performance.

When training a horse for any type of work, patience, practice, and help from an experienced

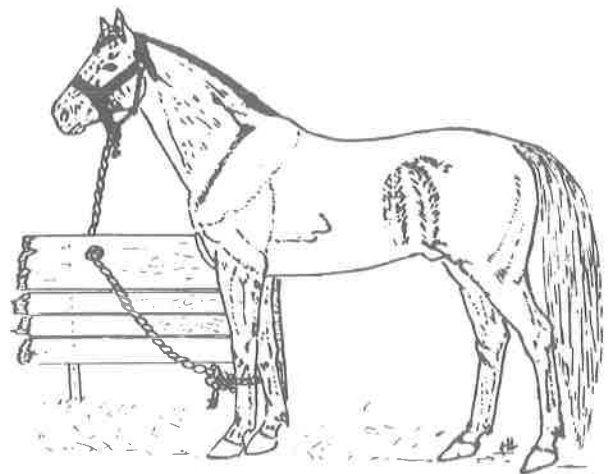
trainer is paramount. Follow the old Spanish saying, "Poco a poco se andan lejos." ("Little by little they travel far.")



Typical California spade bit.



The double rein. Note hackamore and curb bit.



A satisfactory way to tie a young colt or halter puller.