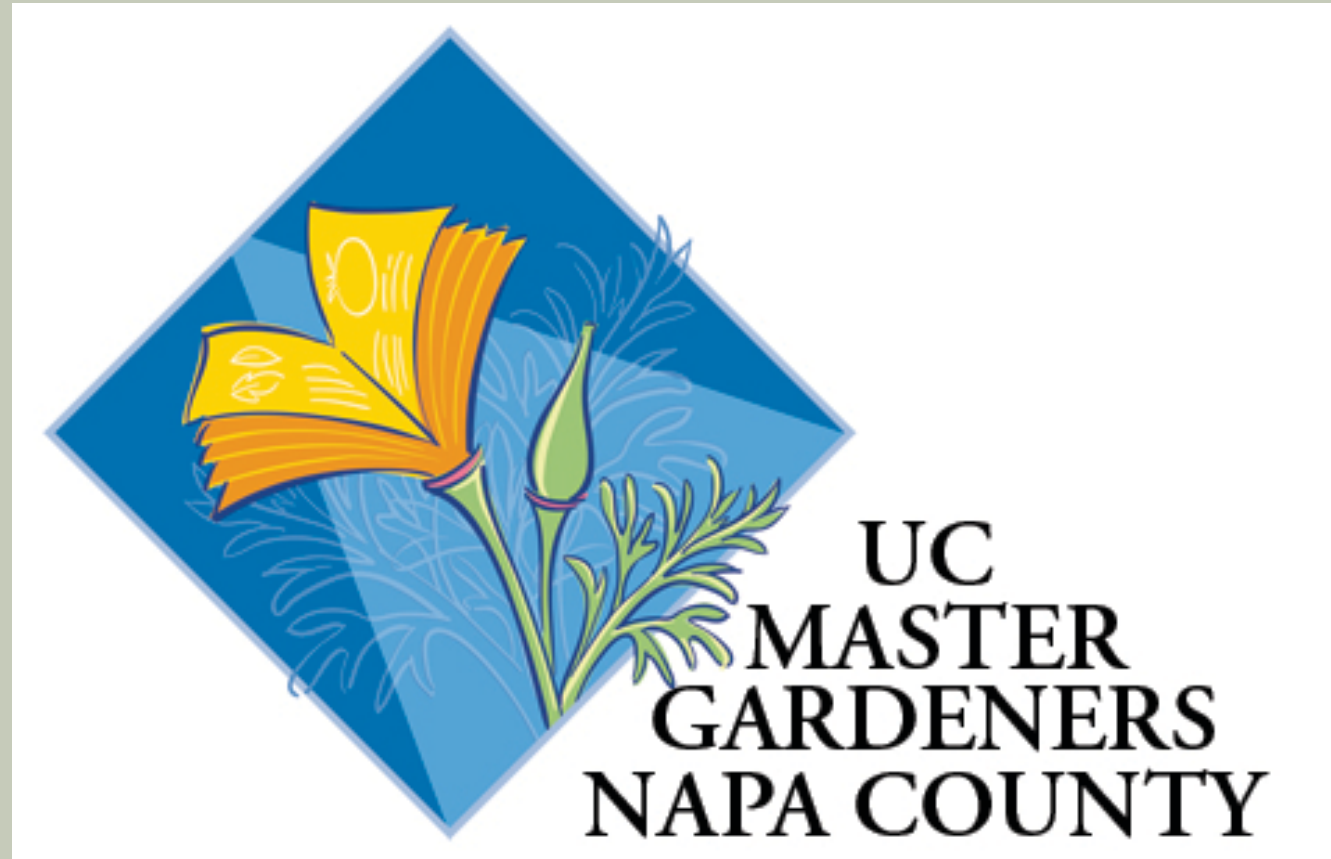


Welcome!



UC Master Gardeners

- * Who we are:

- * Volunteers

- * Part of the University of California Cooperative Extension program

- * 80 hours of initial training, yearly CE to continue certification

UC Master Gardeners

- * What we do:
- * Provide scientifically-based gardening info
- * Workshops, Help Desk, Farmers Markets, Mobile Help Desk
- * Newspaper, Facebook, Tree Book, Monthly Garden Guide

UC Master Gardeners

- * More of what we do:
- * Website
- * Train future Master Gardeners
- * Tomato Sale—April 23, 2016
- * Garden Tour—Late spring 2017

UC MG Demo Garden



It's Almost Time for Tomatoes!



Growing Tomatoes

in the

Home Garden

Brought to you by Mother Nature

Your good gardening skills, and

by Master Gardeners of Mapa

County

All About Today—April 10

- * Varieties—Rachelle Benney and Team
- * Planting—Connie Wilson
- * Cultivation—Suzan Rada
- * Sanitation—Gayle Nelson
- * Harvest & Maturity—David Layland

All About Today—April 16

- * Varieties—TomatoTeam
- * Planting—Cindy Panek
- * Cultivation—John Pearson
- * Sanitation—Gayle Nelson
- * Harvest & Maturity—David Layland

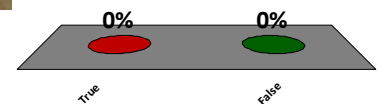
Just For Fun Quiz

What do YOU know about tomatoes?



The best transplants are the tallest ones.

1. True
2. False



For best flavor, harvest when tomatoes are at full color for the variety.

1. True
2. False



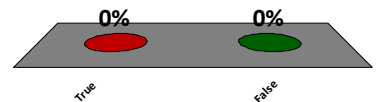
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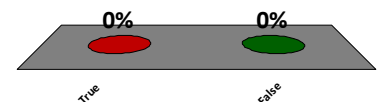
Fertilize as soon as you plant tomatoes, maybe even put some fertilizer in the planting hole.

1. True
2. False



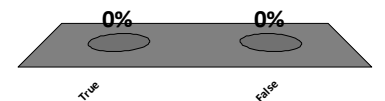
You can plant tomatoes in the same place every year.

1. True
2. False



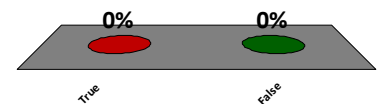
You can use the container from last year for this year, too.

1. True
2. False



It's a good idea to stress tomato roots by withholding water.

1. True
2. False



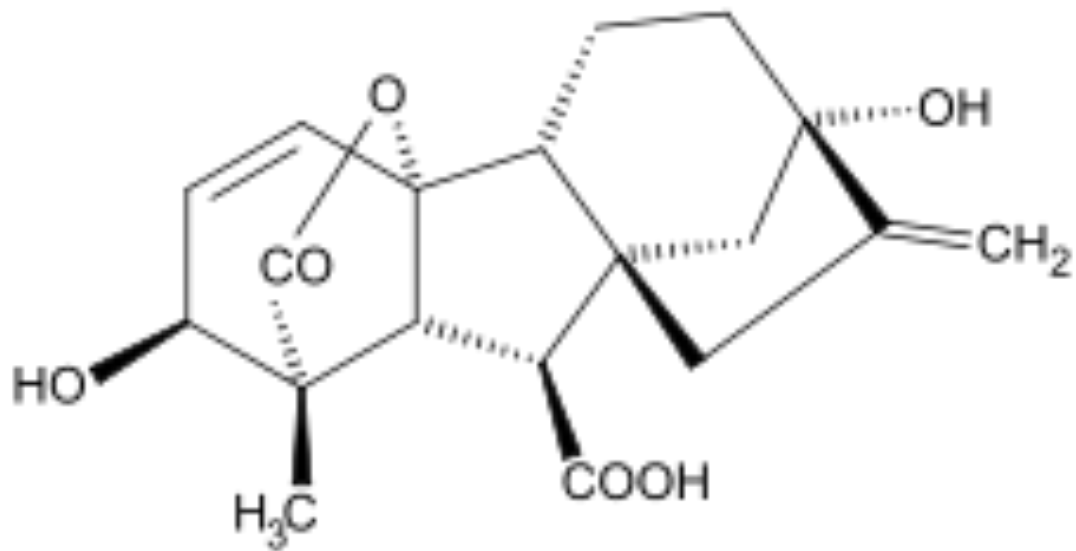
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Plant hormones will help pollination.

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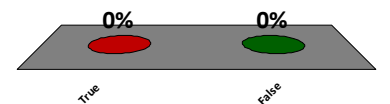
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2. False



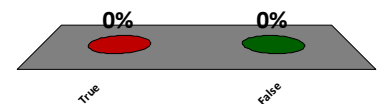
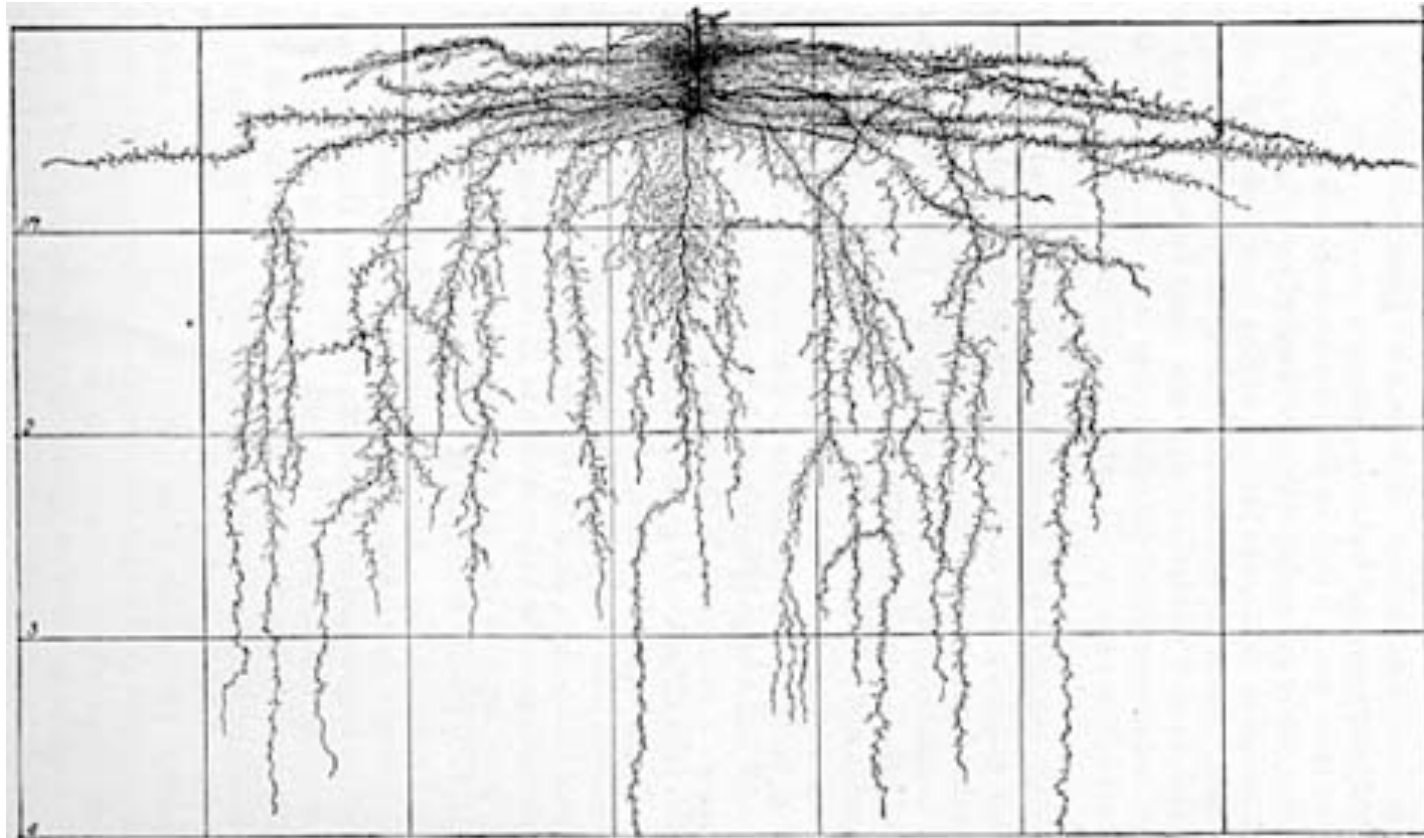
It's okay to prune away excess green leaves.

1. True
2. False



Tomato roots are deep so you don't have to water regularly.

1. True
2. False



Choosing the Right Tomato

Growth Habit - Determinate or indeterminate

Heirloom or hybrid

Maturity – early, mid, late season

Purpose – slice, juice, can, dehydrate

Size, shape, and color

Selecting seedlings

Disease resistance – applies only to hybrids

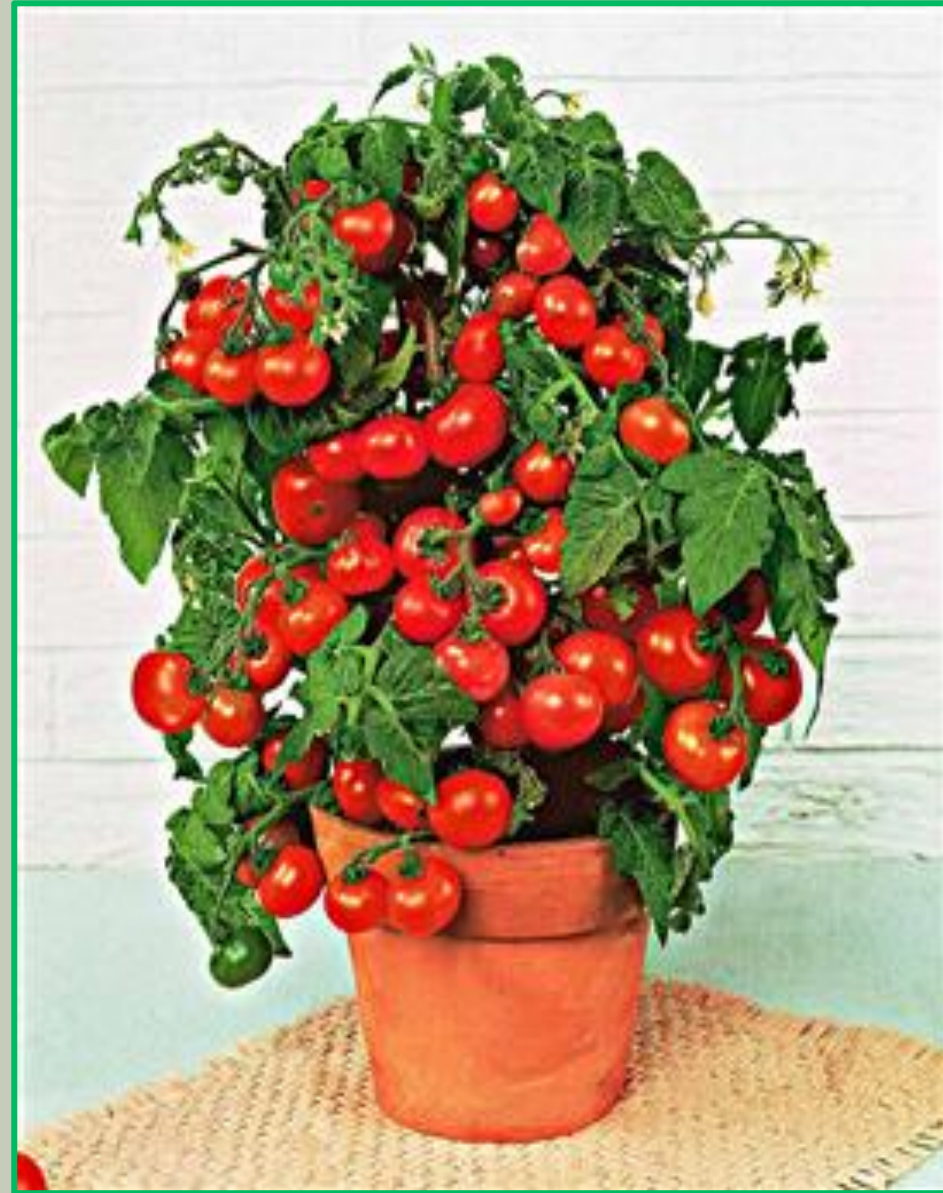
Selecting Seedlings

Read the plant tag.



Growth Habit

Determinate or
“bush” tomatoes



Growth Habit

Indeterminate

tomatoes



Heirloom or Hybrid

Heirloom, or “open pollinated” (OP)

Hybrid

Disease Resistance

- * V Verticillium Wilt
- * F Fusarium Wilt
- * FF Fusarium, races 1 and 2
- * FFF Fusarium, races 1, 2, and 3
- * N Nematodes
- * A Alternaria
- * T Tobacco Mosaic Virus

Maturity

Days to maturity

- * Early season - 52 to 70 days
- * Mid season - 70 to 80 days
- * Late season - 80 to 90 days.

Purpose

Slice

Juice

Can

Dehydrate

Size

Shape

Color



Selecting Seedlings

Ask for help if you're not sure!



Selecting Seedlings

- * Big is not
- * necessarily
- * best!



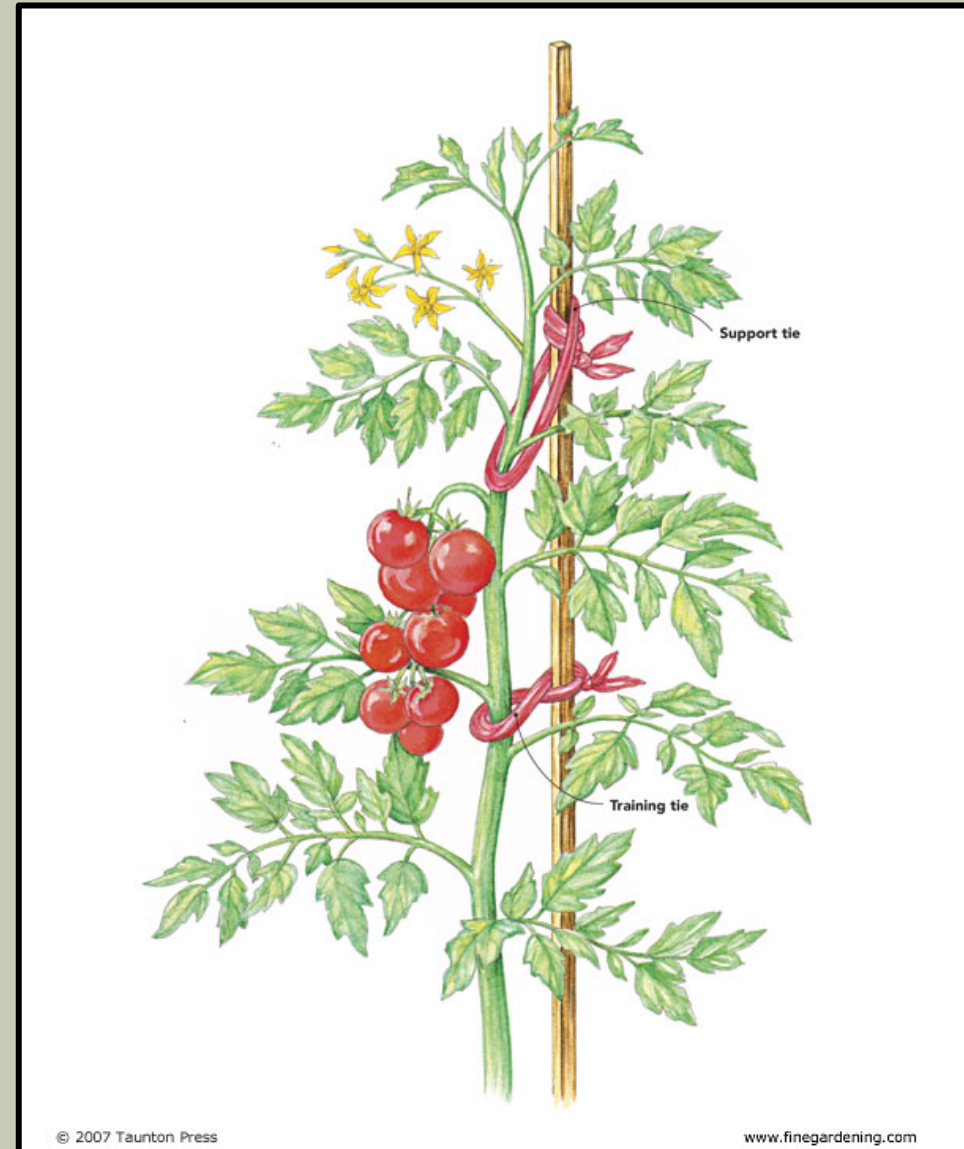
Selecting Seedlings

Go for leafy rather than
tall.



Selecting Seedlings

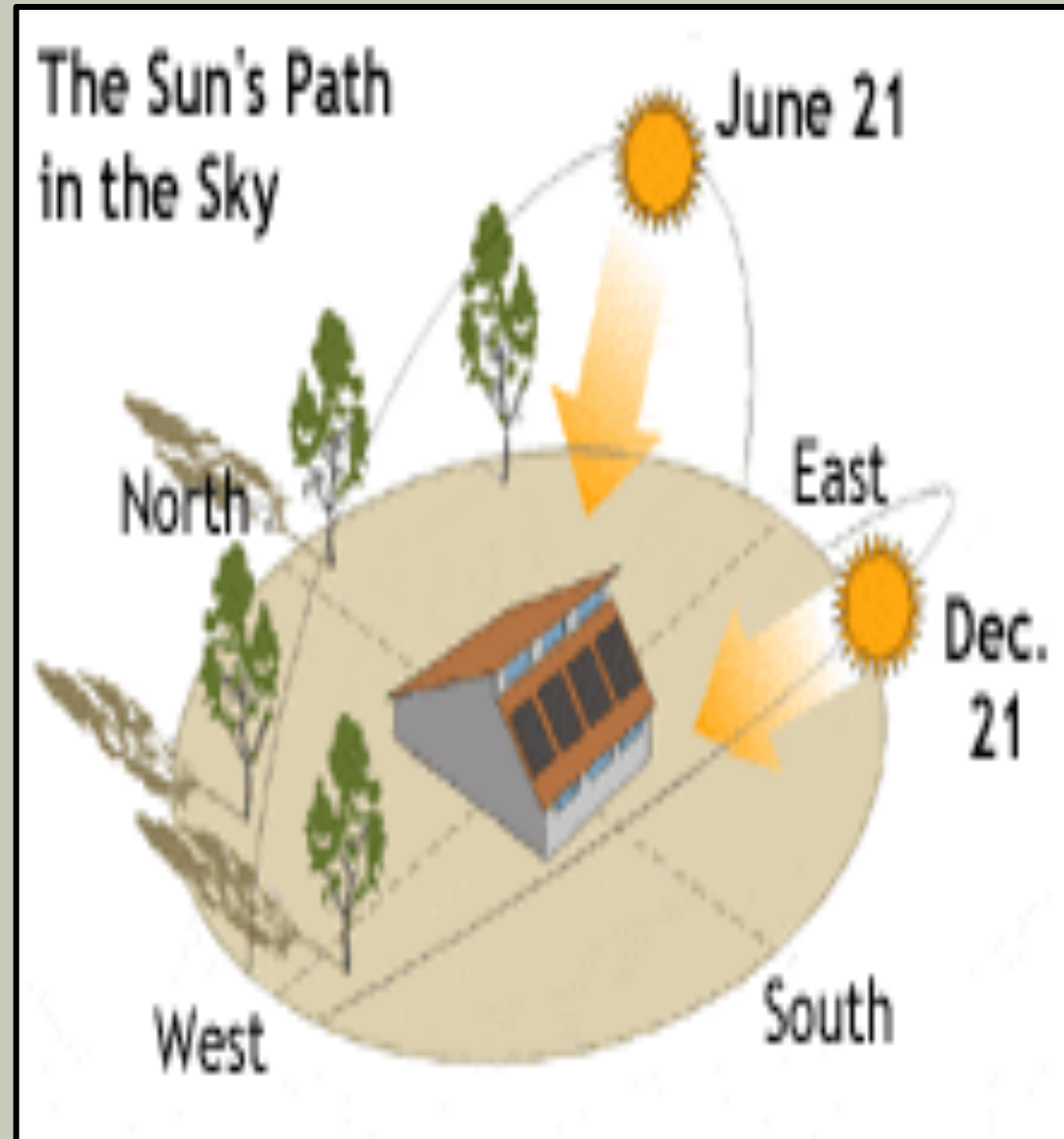
Don't buy plants that
already have flowers.



Site Requirements

Full Sun - 8 hours

Shade - know where it will occur.



Site Requirements

Water

Crop rotation

Tomatoes and their relatives such as peppers, chiles, potatoes, and eggplant should be rotated in your garden to minimize soil-borne diseases.



1st Rule of Garden Soil Preparation: DO NO HARM!

Avoid compaction

Avoid excessive soil
disturbance

Avoid chemical/synthetic
fertilizers and . . .

Moderation is key.



2nd Rule of Garden Soil Preparation: REMOVE ALL WEEDS!

Weeds compete
with your vegetables
for water and nutrients

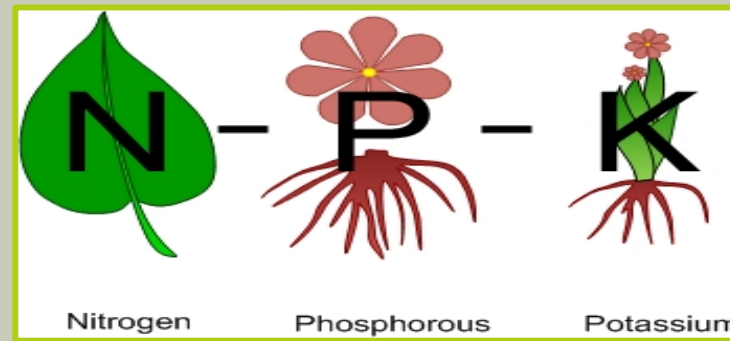


3rd Rule of Garden Soil Preparation: Amend, Amend, Amend!

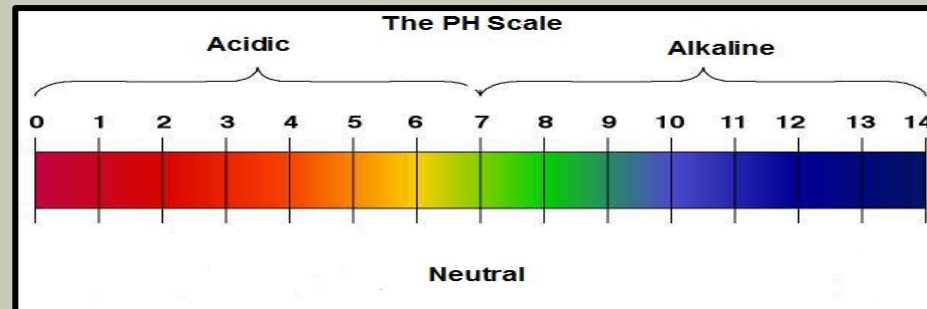
Add organic matter



Add fertilizer



Adjust pH



Soil Temperature

Day >60 degrees

Night >50 degrees



The Last Frost Date

Probability of
frost in the
spring:

50% - Feb 22nd

10% - April 6th



Planting Your Seedlings

Water plants thoroughly before placing in the ground. Plant on a cloudy day or in the late afternoon to lessen transplant shock.



Planting Your Seedlings

Plant seedlings 2' to 3' apart to allow for growth and ease of harvesting.



Planting Your Seedlings

Gently

-remove plant from pot

-loosen roots if tight before placing in planting hole

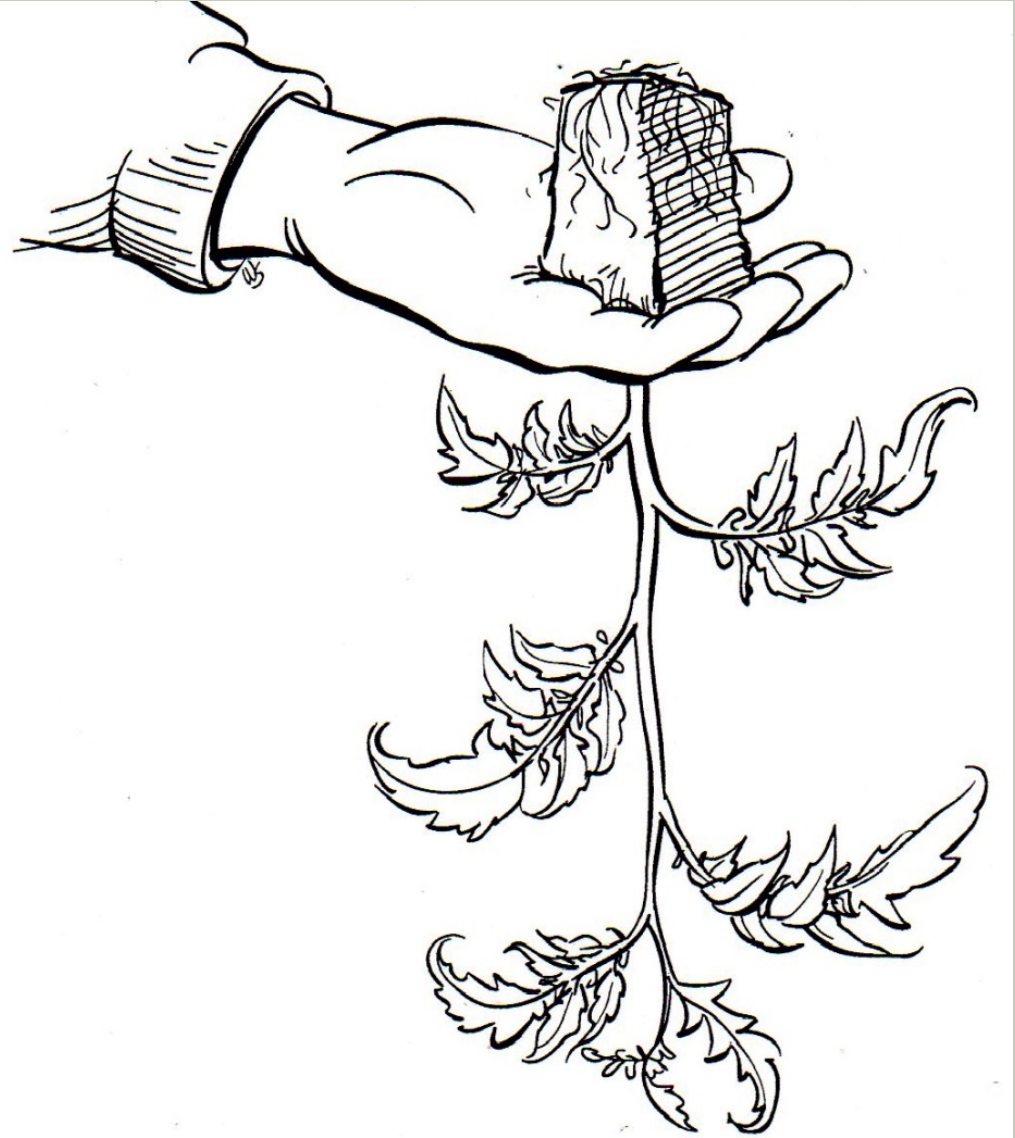


Figure 2. Avoid handling the stems or root ball of tomato transplants.

Planting Your Seedlings

Remove bottom leaves

2/3 of the plant goes into the planting hole

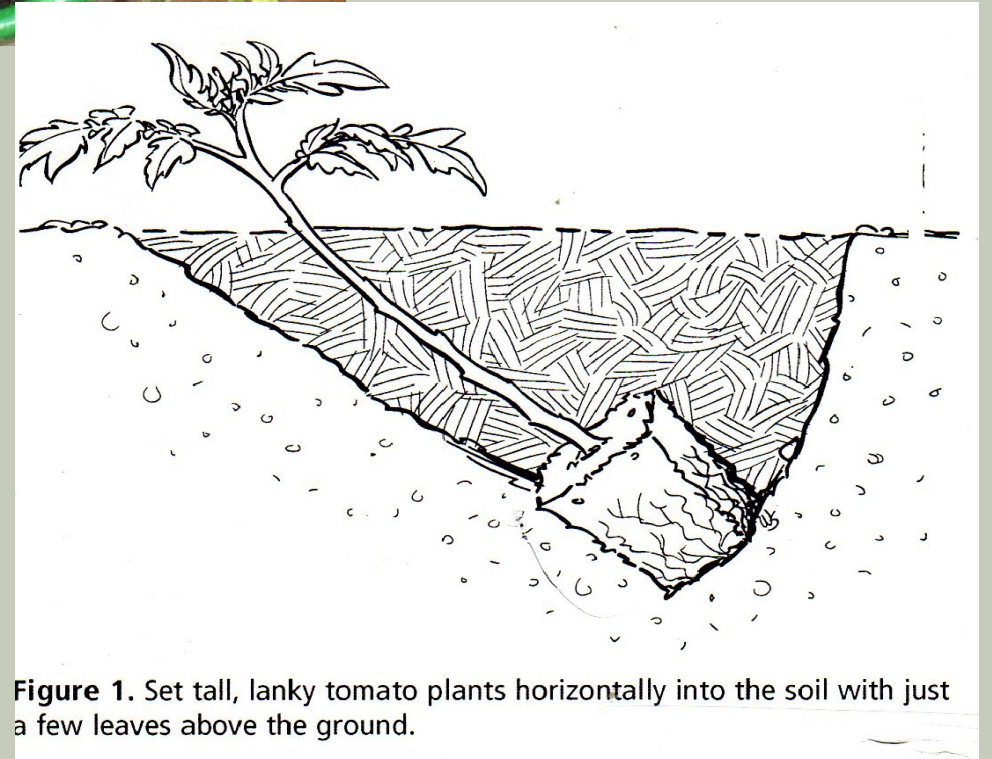


Figure 1. Set tall, lanky tomato plants horizontally into the soil with just a few leaves above the ground.

Cultivation—Growing

- * Water—regularly: 2-3 gal/plant/wk
- * Fertilizer—balanced N-P-K
- * Containers
- * Support

Container Growing

Use really big containers
and fresh soil every year

Determinate better than
indeterminate

Requires more frequent
watering

Requires more fertilization

Requires same amount of
sun – 8 hours per day

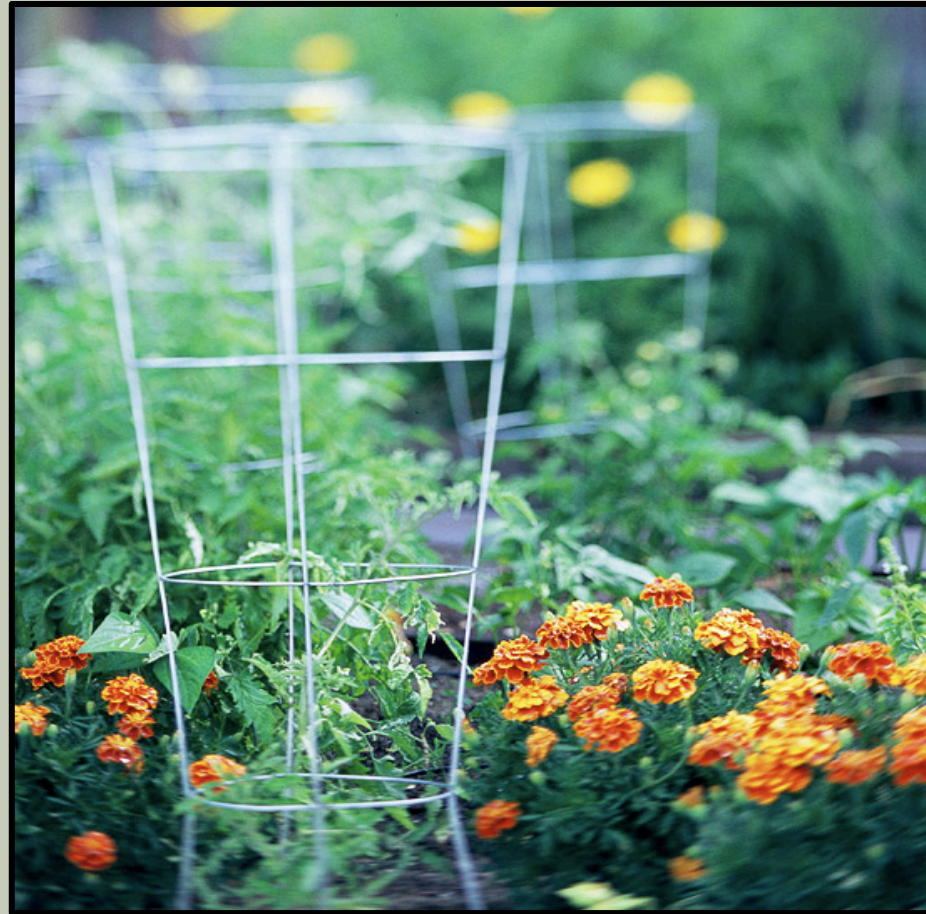


Support

- * Here are some ordinary tomato support systems . . .

Cages

*



Reinforced Cages



Spirals for Fun



It's a Wrap



Ladder to Success



Tepee Tower



Fence Them In--AKA Trellis



Lean on Me



String Them Along



Check Soil Moisture



Mulch!



Control Weeds



Growing Recap

Keep soil moist but not wet

Avoid wetting foliage or fruit

Decrease watering when ripening begins

Fertilizer

Pruning – not necessary, but ok if you want

<http://www.ipm.ucdavis.edu/PMG/GARDEN/VEGES/tomato.html>

Find All Kinds of Help

* <http://www.ipm.ucdavis.edu/PMG/GARDEN/VEGES/tomato.html>

* **UC IPM**



Diseases, Invertebrates, Environmental Disorders . . .



Curly Top (NOT Shirley Temple!)



Fusarium Wilt



Verticillium Wilt



Verticillium Wilt



Early Blight



Late Blight



Avoid Most Problems by . . .

- * 1. Overhead watering – NO.
- * 2. Choose resistant types.
- * 3. Practice good hygiene.
- * 4. Crop rotation—no more than 2 years.
- * 5. Solarize.

Invertebrates

- * Hornworm
- * Tomato russet mite
- * And a whole bunch more!

Hornworm - 4 Inches Long!



UC Statewide IPM Project
© 2000 Regents, University of California

They Like Tomatoes!



UC Statewide IPM Project
© 2000 Regents, University of California

This is the Moth—over 4 inches!



Tomato russet mite



Environmental Disorders

* Blossom end rot

* Catfacing

* Fruit cracks

* Sunscald

* Tomato leaf roll

Blossom End Rot



Blossom drop and poor fruit set



Catfacing



Fruit Cracks



Sun Scald



Tomato Leaf Roll

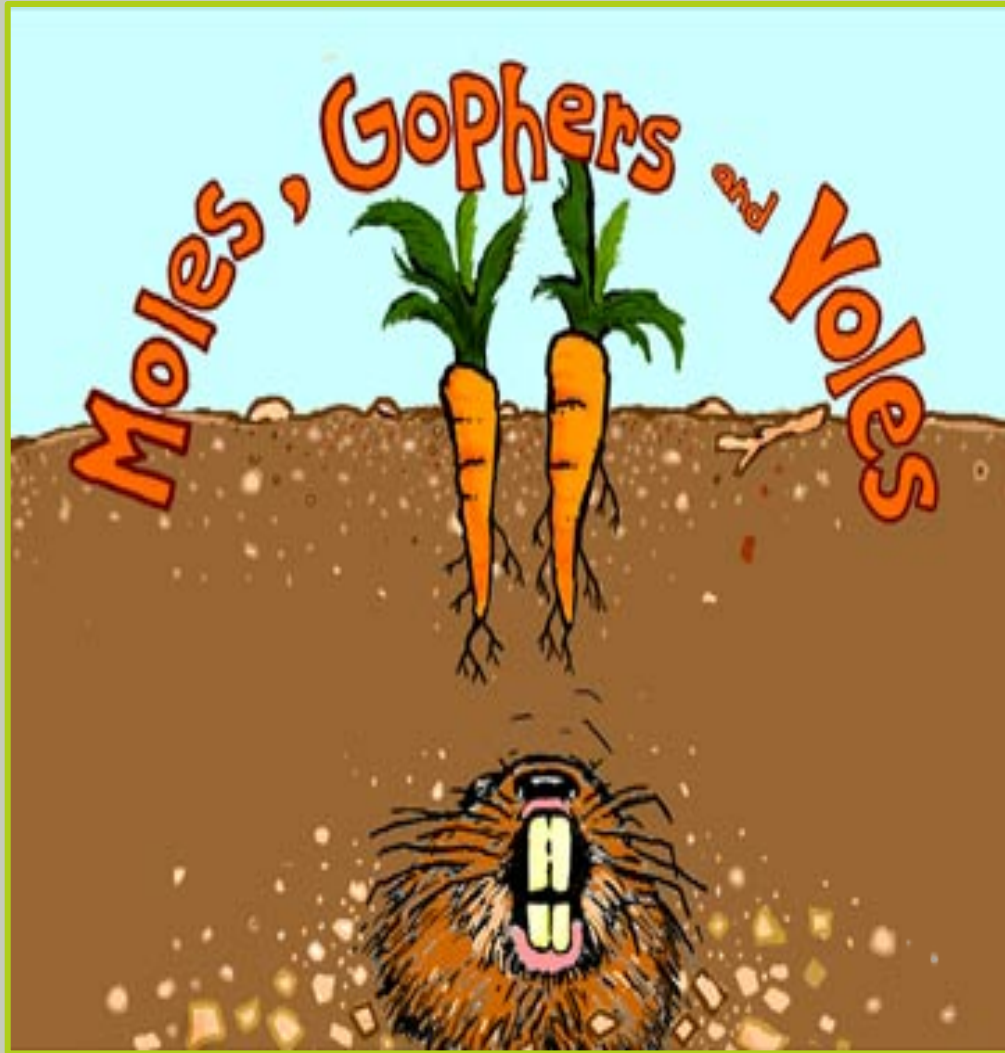


Find All Kinds of Help

* <http://www.ipm.ucdavis.edu/PMG/GARDEN/VEGES/tomato.html>



Vertebrate Pests



Birds



Natural Enemies



Bambi



Now Ubiquitous Pest



More Vertebrate Pests!

Baxter noshing on corn stalks last August



Baxter waiting for planting to start



Harvest & Maturity

- When to harvest.
- How to harvest.
- Extending your tomato harvest.
- Ripening green tomatoes.
- Refrigerating tomatoes.
- Storing tomatoes.
- Water content of tomatoes.
- Is a tomato a fruit or vegetable?
- How many tomatoes will a plant produce?
- How many pounds of tomatoes are needed to produce a quart of sauce?
- Are all paste tomatoes created equal?
- Origin of tomatoes.
- Little known tomato facts.

Harvest & Maturity

When to harvest.

When the tomato has reached full color.

Once ripening begins check progress almost daily.

- Know what was planted so that you're not waiting for an orange tomato to turn red. All of the tomatoes in the photo are ripe.
- Know the predicted maturity of each plant.
 - Early Girl's will mature at around 60 days.
 - Brandywine will mature at around 90 to 100 days



Harvest & Maturity

How to harvest.

Cut or gently twist off the fruits, supporting the vine at the same time to keep from damaging it.



Harvest & Maturity

Extending tomato harvest into fall.

Plant a few tomato plants in June.

- Start from seed in late April.
- Choose varieties with a short maturity (55 days or so).
- Make sure you know where the sun will be in the fall months so that your plants will receive 8 hours of sunlight.
- Protect your plants from frost.



Harvest & Maturity

Ripening green tomatoes.

Test whether green tomatoes are mature enough to ripen off the vine by cutting one in half with a knife.

- If the interior is yellowish and the tissues are jelly-like or sticky, it will probably ripen.
- Mature green tomatoes may also have a pink or reddish tinge on the blossom end.
- If your green tomatoes pass the test then harvest as many as you want to save.



- Wrap in newspaper, place in a box and store the box in a cool area.
- Check the ripening process every few days.

Harvest & Maturity

Tomatoes should never be refrigerated.

Refrigerating a tomato affects the smell and texture.

- The tomato loses its characteristic grassy fragrance and the flesh can become grainy.
- Refrigeration, however, does not change the sugar content or acidity.



Harvest & Maturity

Storing tomatoes.

- Wash and dry tomatoes before storing.
- Unless you're planning to store your tomatoes for over a week, a windowsill, counter-top or bowl works fine.
- Fresh-picked tomatoes will last longer on the kitchen counter than store-bought ones.
- Tomatoes keep longer with the stem down.



Tomato Trivia

Q: How much water is there in a tomato?

A: It depends. Paste tomatoes average 85% water and slicing tomatoes are around 95% water.

Why is this important?

- Tomatoes with lower water content are better for cooking and canning.
- Eating a tomato after exercise can hydrate your body twice as effectively as a glass of water.



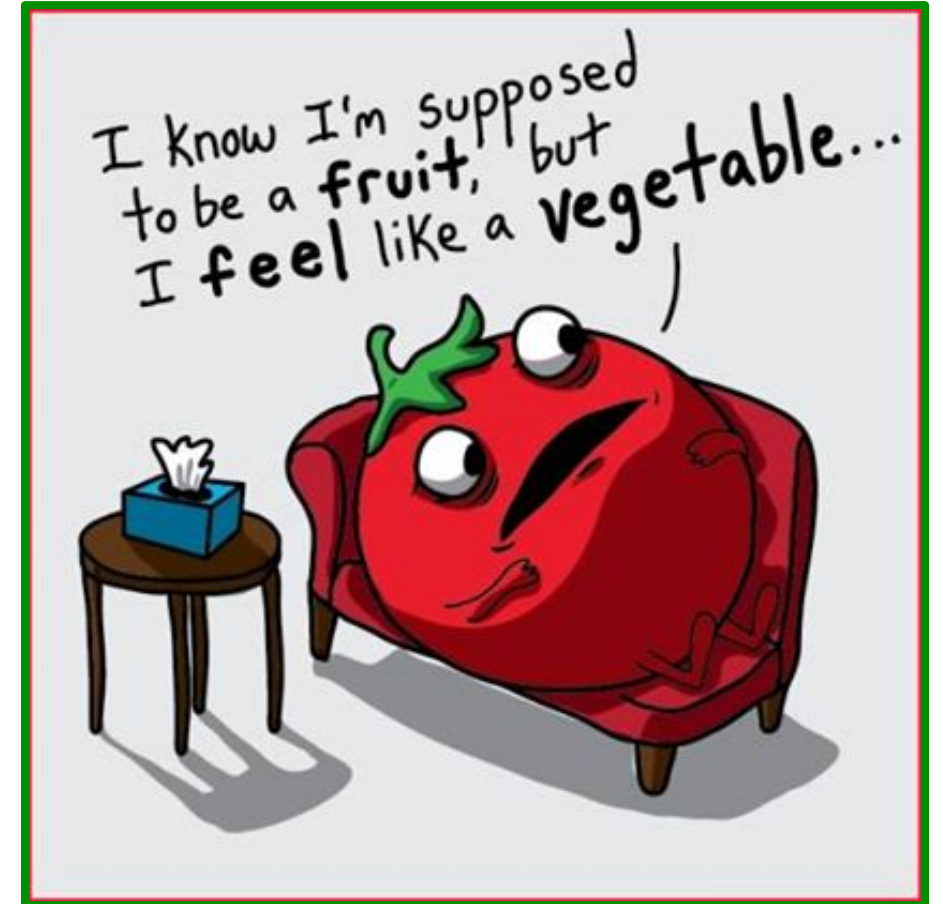
Tomato Trivia

Q: Is a tomato a fruit or vegetable?

A: It depends on your point of view.

Why is this important?

- It isn't. A tomato is technically a fruit because it is a ripened ovary of a plant. But for trade purposes a tomato is considered a vegetable. The identity crisis stems from an 1893 Supreme Court ruling that classified the tomato as a vegetable so it could be taxed under tariff law.



Tomato Trivia

Q: How many tomatoes will a single plant produce?

A: It depends on the type of tomato.

- One cherry tomato plant can grow to over 6' tall and produce enough tomatoes for a family of 4.
- One paste tomato plant can produce up to 200 tomatoes.
- One beefsteak tomato plant can produce 10 to 20 tomatoes.



Tomato Trivia

Q: How many pounds of tomatoes are needed to produce a quart of sauce?

A: It depends on desired consistency. 5 to 7 pounds depending on water content.

- Paste tomatoes (Roma, San Marzano, Big Mama) are very meaty and with less water so fewer pounds are needed.
- Beefsteak tomatoes have higher water content so more pounds are needed.



Tomato Trivia

Q: Are all paste tomatoes created equal?

A: Not really.

Why is this important?

- If your paste tomato plant produces 100 tomatoes you will have 2 or 3 times as many tomatoes with Opalka, Federle, Big Mama or Amish Paste than with San Marzano.



Tomato Trivia

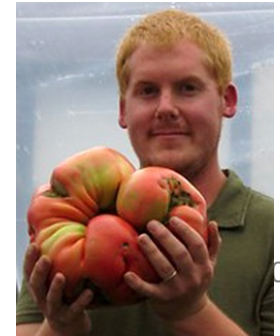
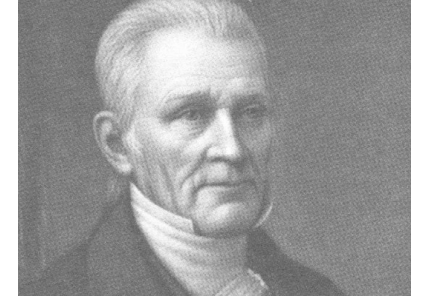
True or False? Tomatoes originated in Italy.

A: False. Tomatoes are native to South America and eventually spread to Mexico where they were discovered by European explorers in the late 1400's and taken home with them.



Tomato Trivia.....little known facts.

- At one time the French believed tomatoes had aphrodisiac qualities and called them *pommes d'amour* (love apples).
- When tomatoes were introduced in the USA in the early 1800's they were thought to be poisonous. In 1820 Robert Gibbon Johnson disproved this claim by eating an entire basket in front of a crowd.
- In 1978 the low budget cult movie *Attack of the Killer Tomatoes!* starred George Clooney and inspired 3 sequels.
- The largest tomato on record weighed 7 $\frac{3}{4}$ pounds and was grown in Edmond, OK.



Harvest & Maturity

- * Days to maturity—plan for a long harvest by selecting tomatoes for early, mid, and late season
- * Color—pick when at full color for the variety
- * Refrigeration dulls the texture and flavor of ripe tomatoes
- * Showcase the variety by the way it's prepared
- * Green tomatoes—will ripen on the counter if there is jelly inside the fruit

Now let's compare Before and After!

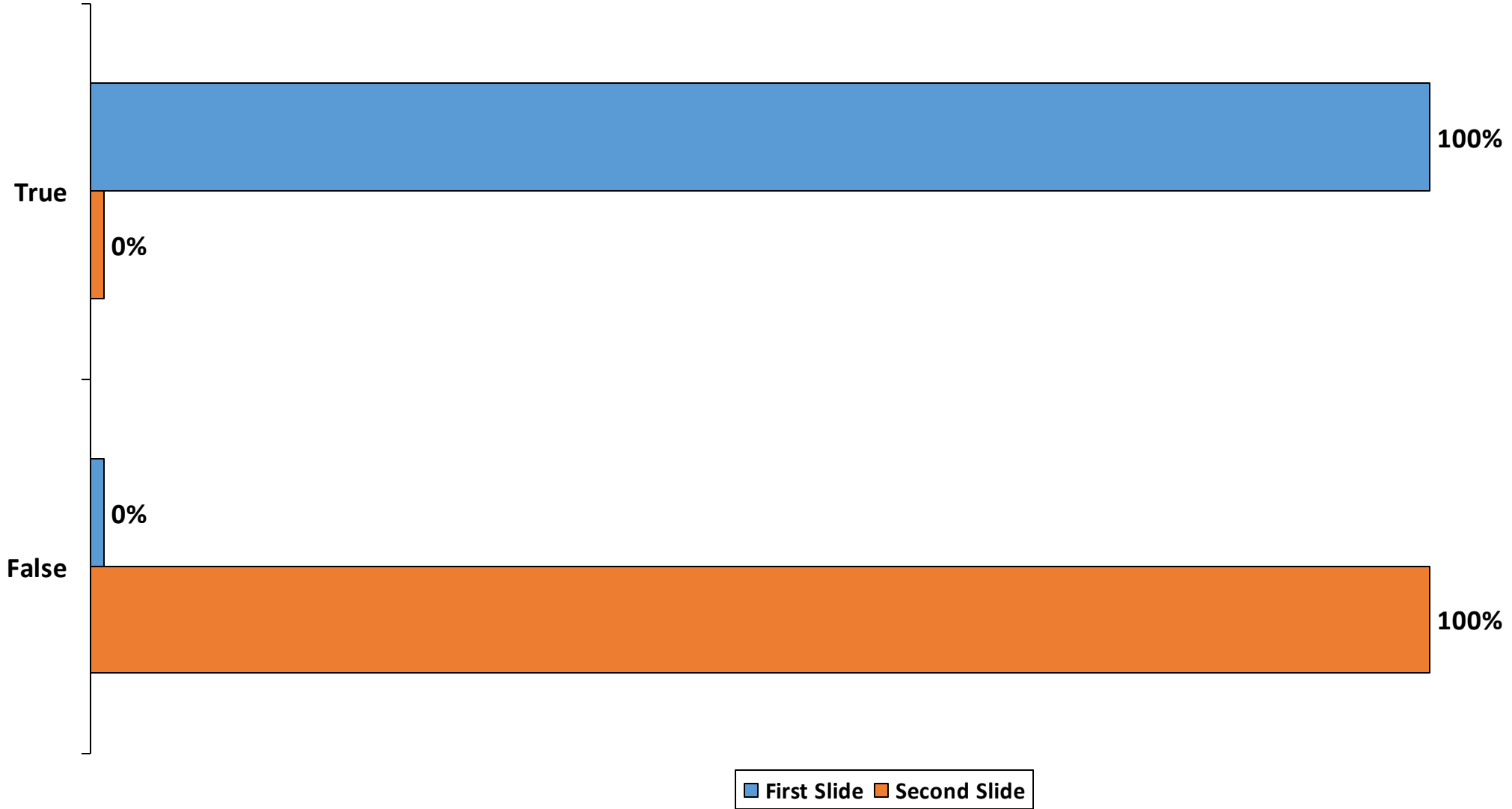


Always refrigerate tomatoes after picking.

1. True
2. False



Always refrigerate tomatoes after picking.

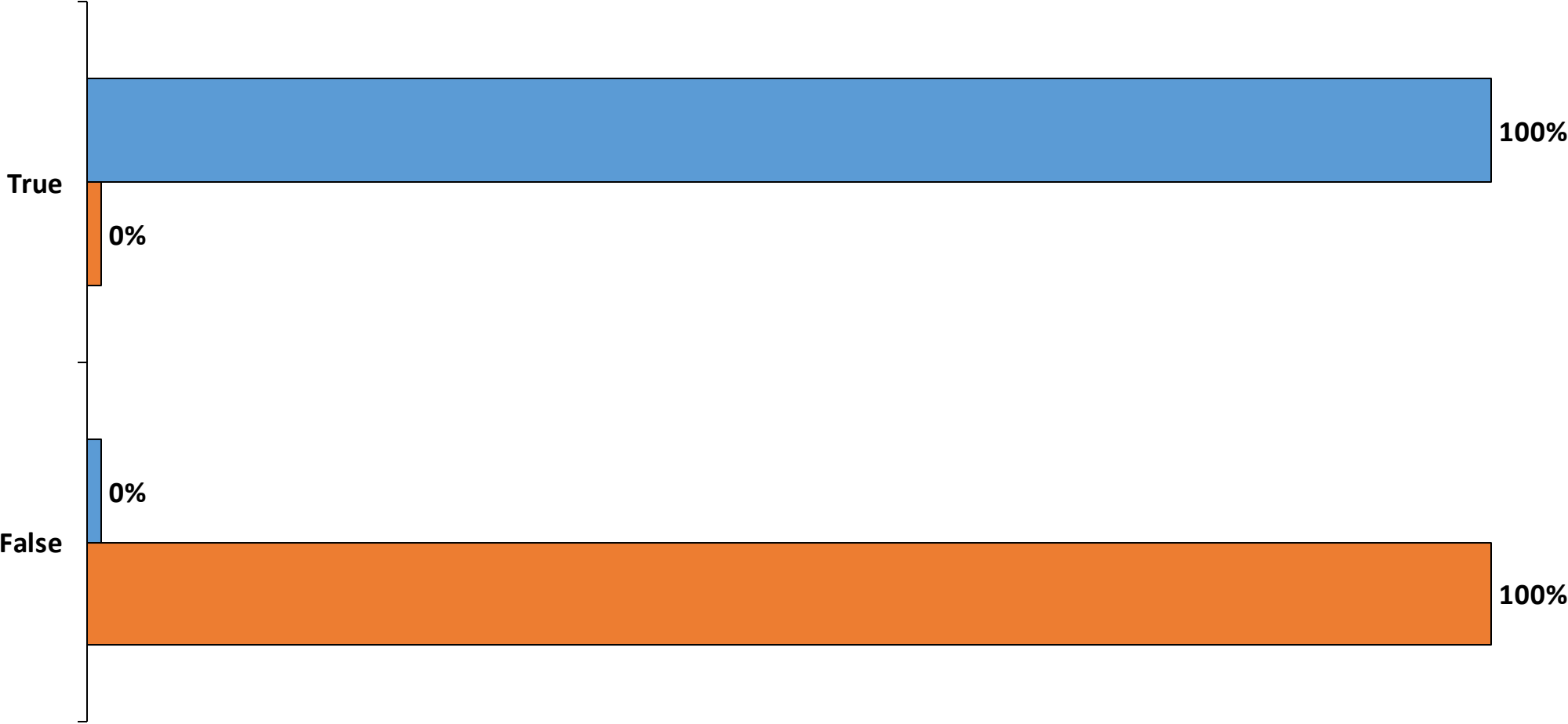


For best flavor, harvest when tomatoes are at full color for the variety.

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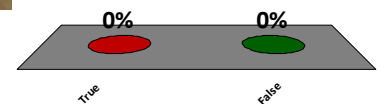
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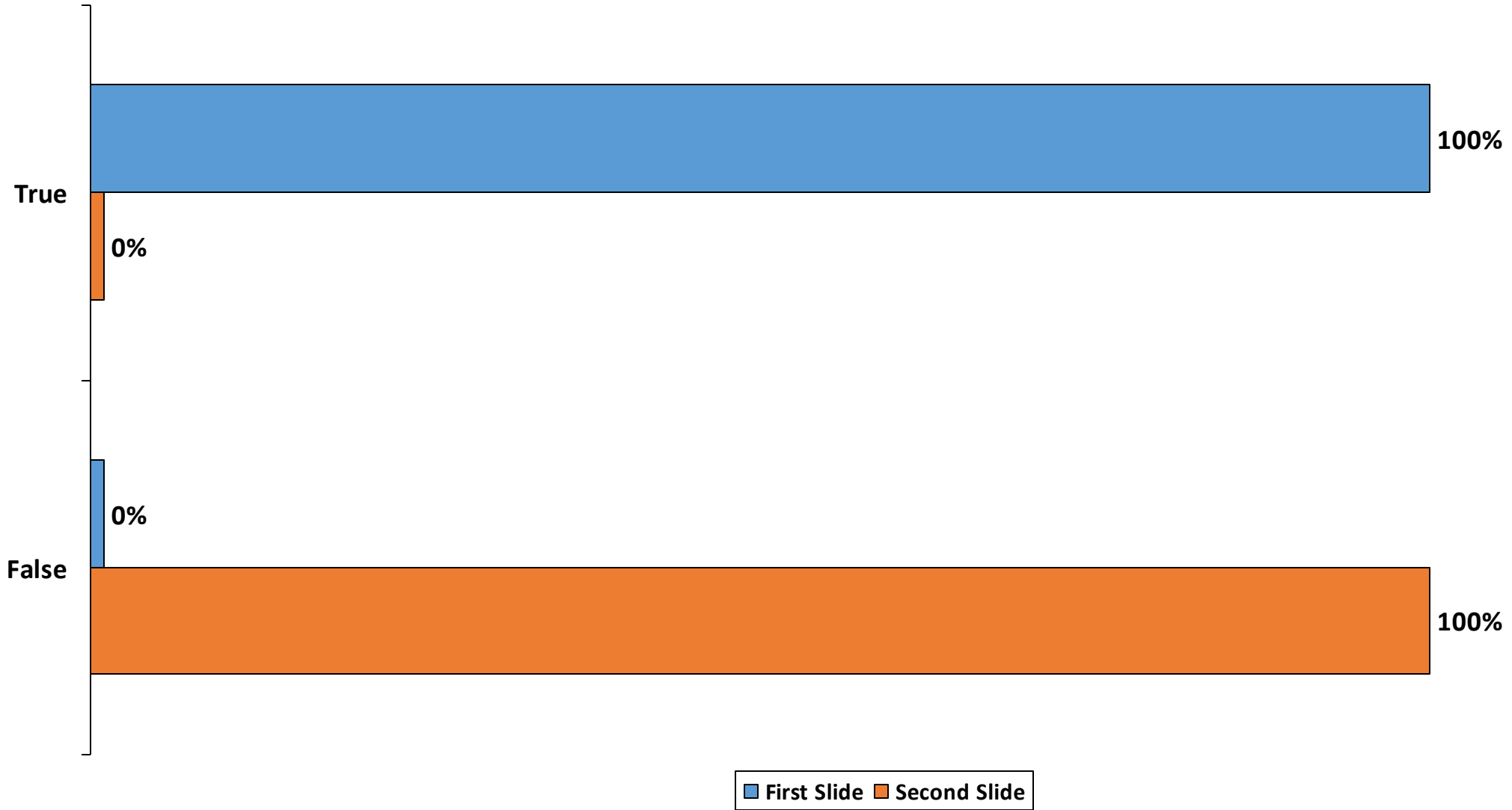
■ First Slide ■ Second Slide

The best transplants are the tallest ones.

1. True
2. False



The best transplants are the tallest ones.

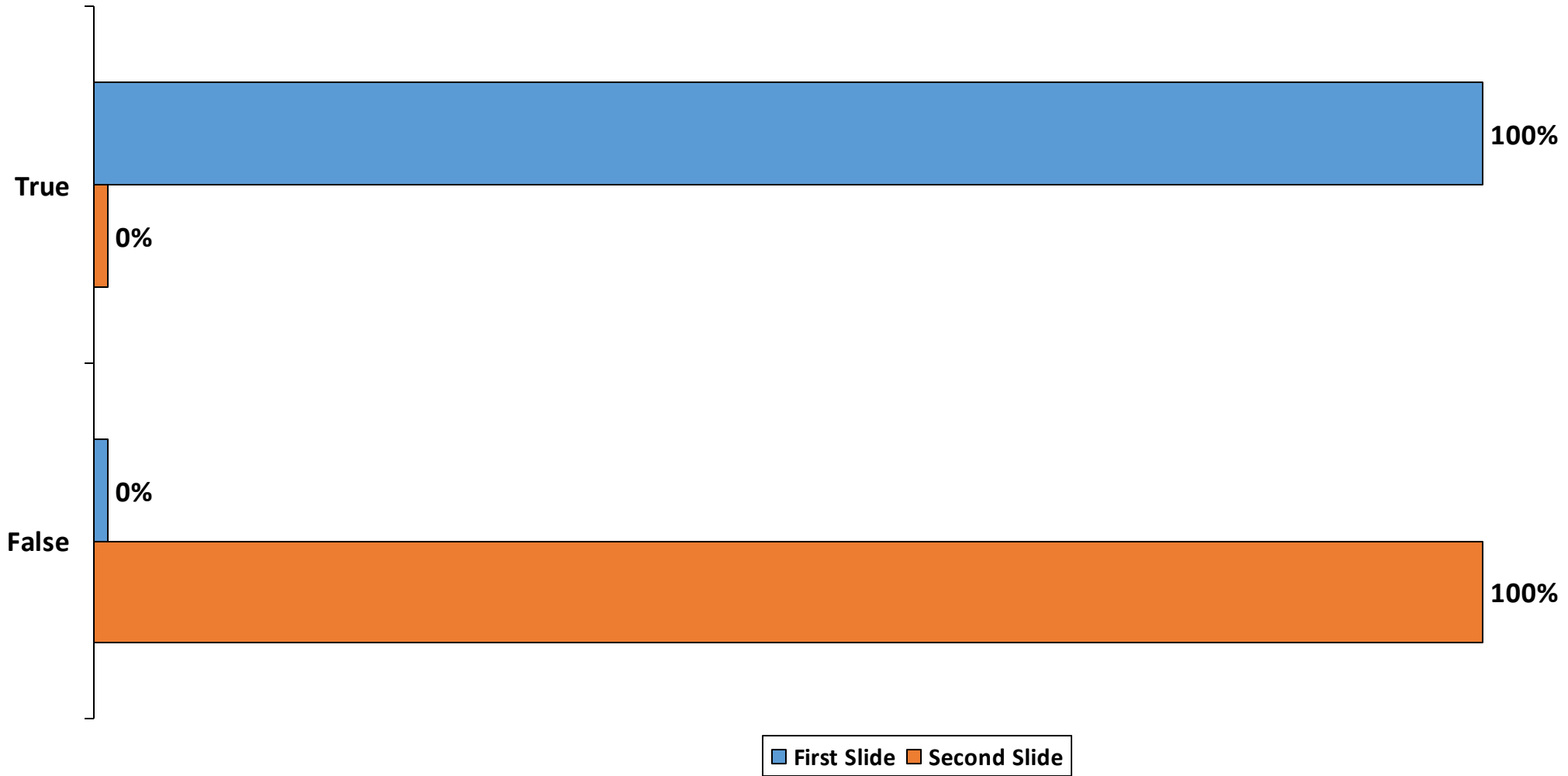


Fertilize as soon as you plant tomatoes, maybe even put some fertilizer in the planting hole.

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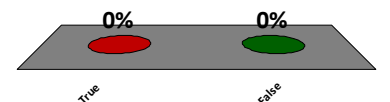


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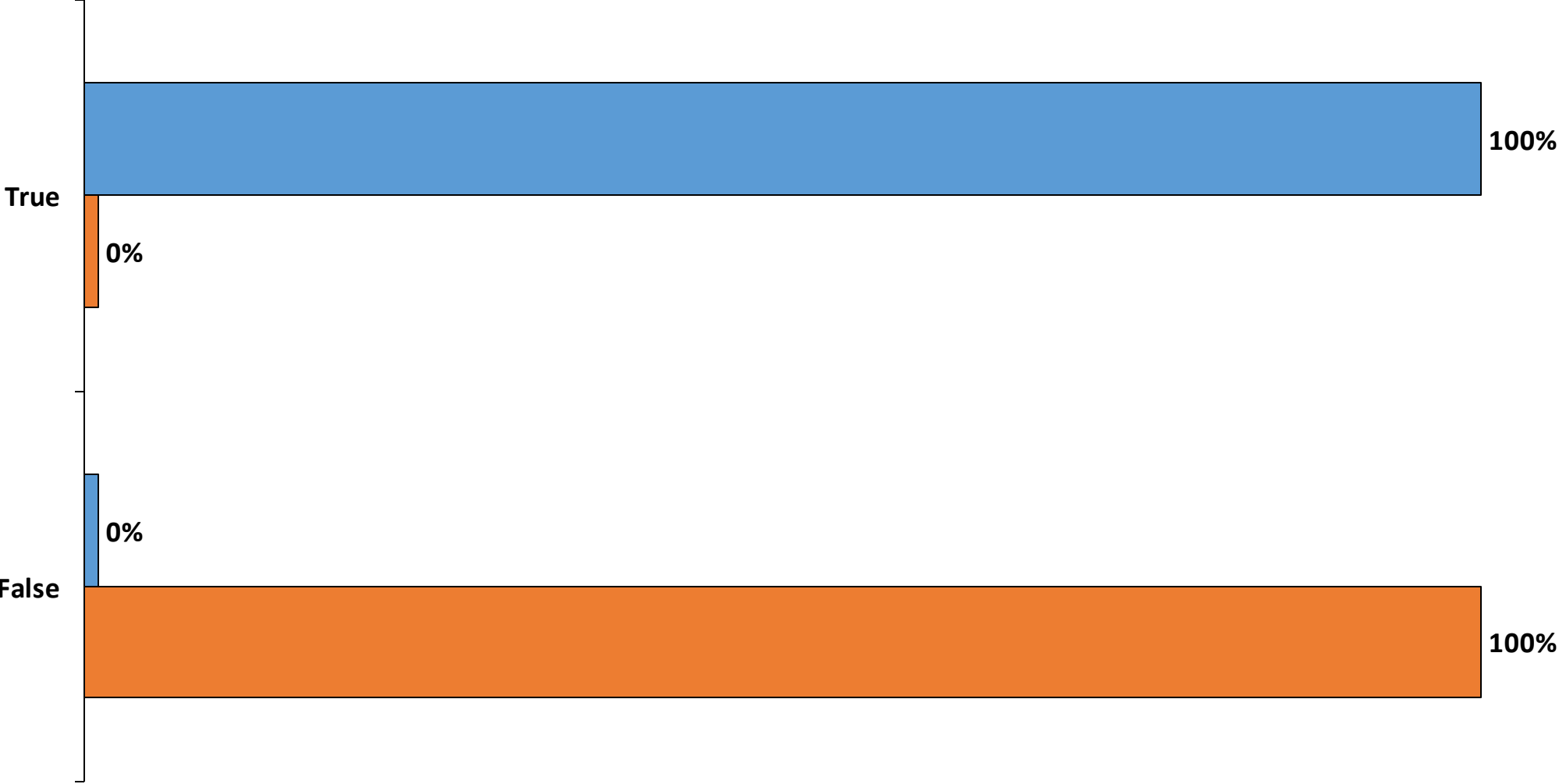


You can plant tomatoes in the same place every year.

1. True
2. False



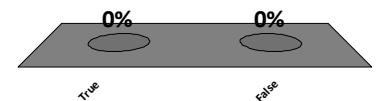
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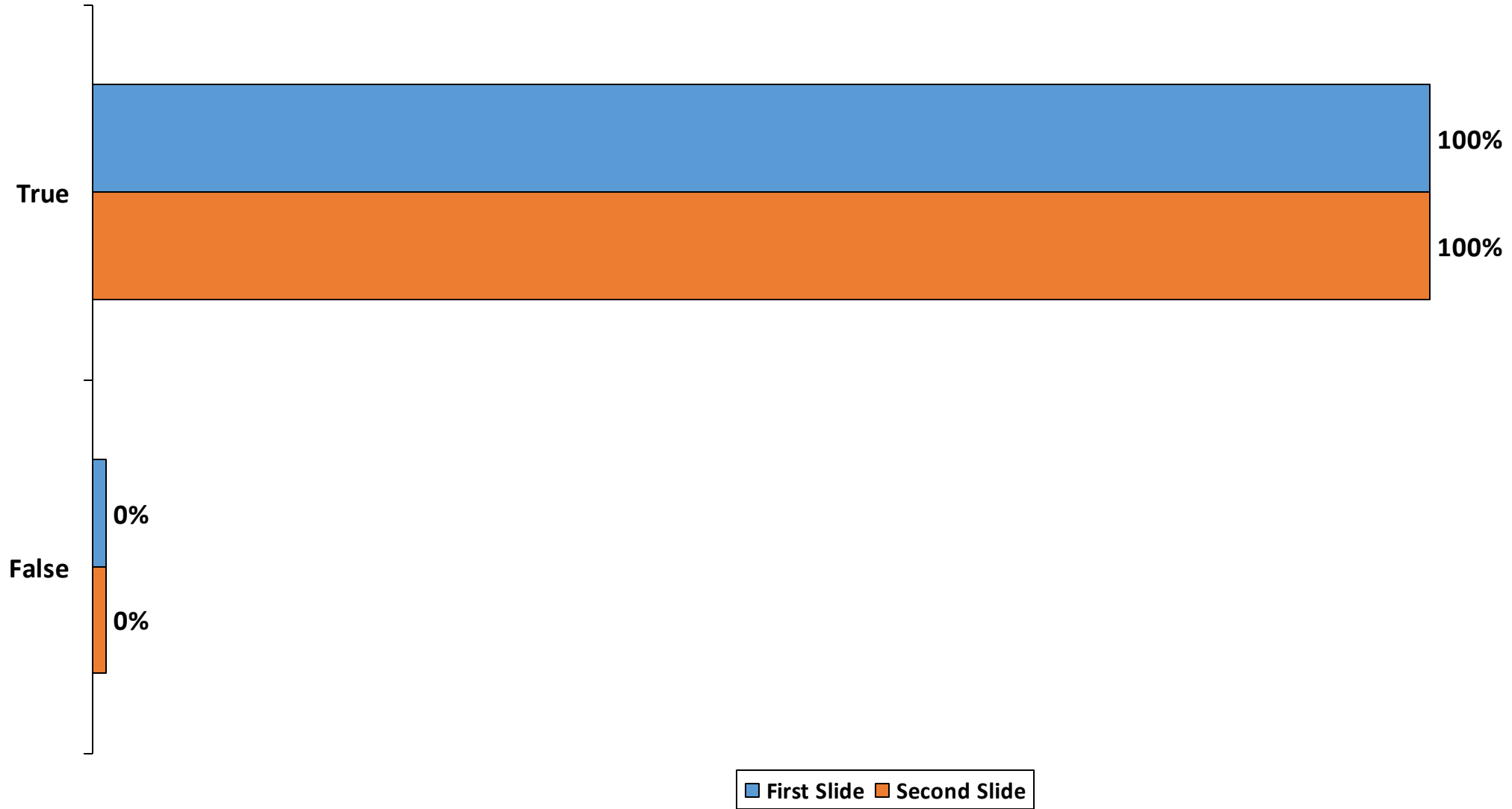
■ First Slide ■ Second Slide

You can use the container from last year for this year, too.

1. True
2. False

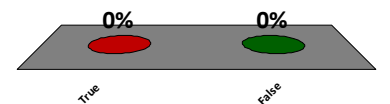
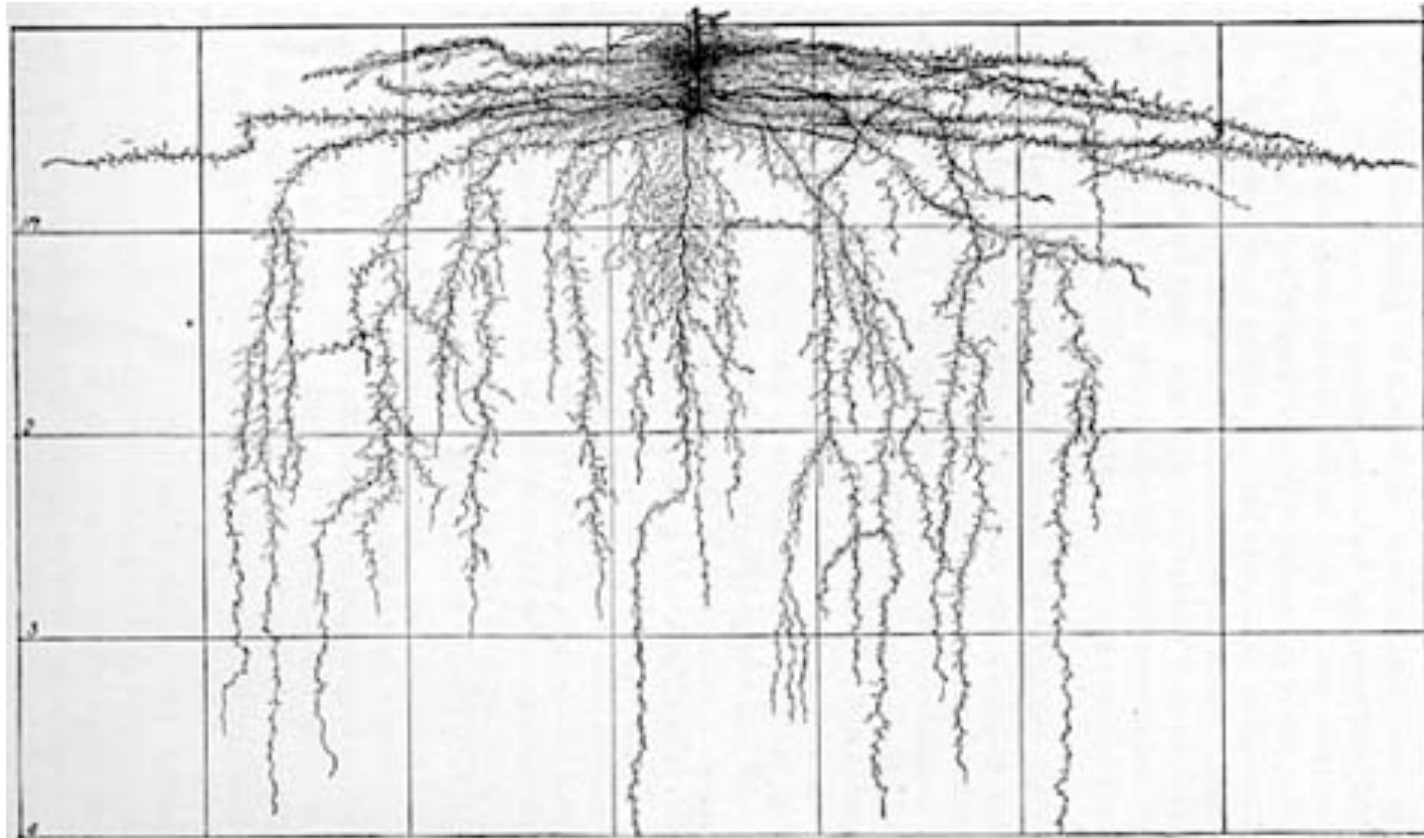


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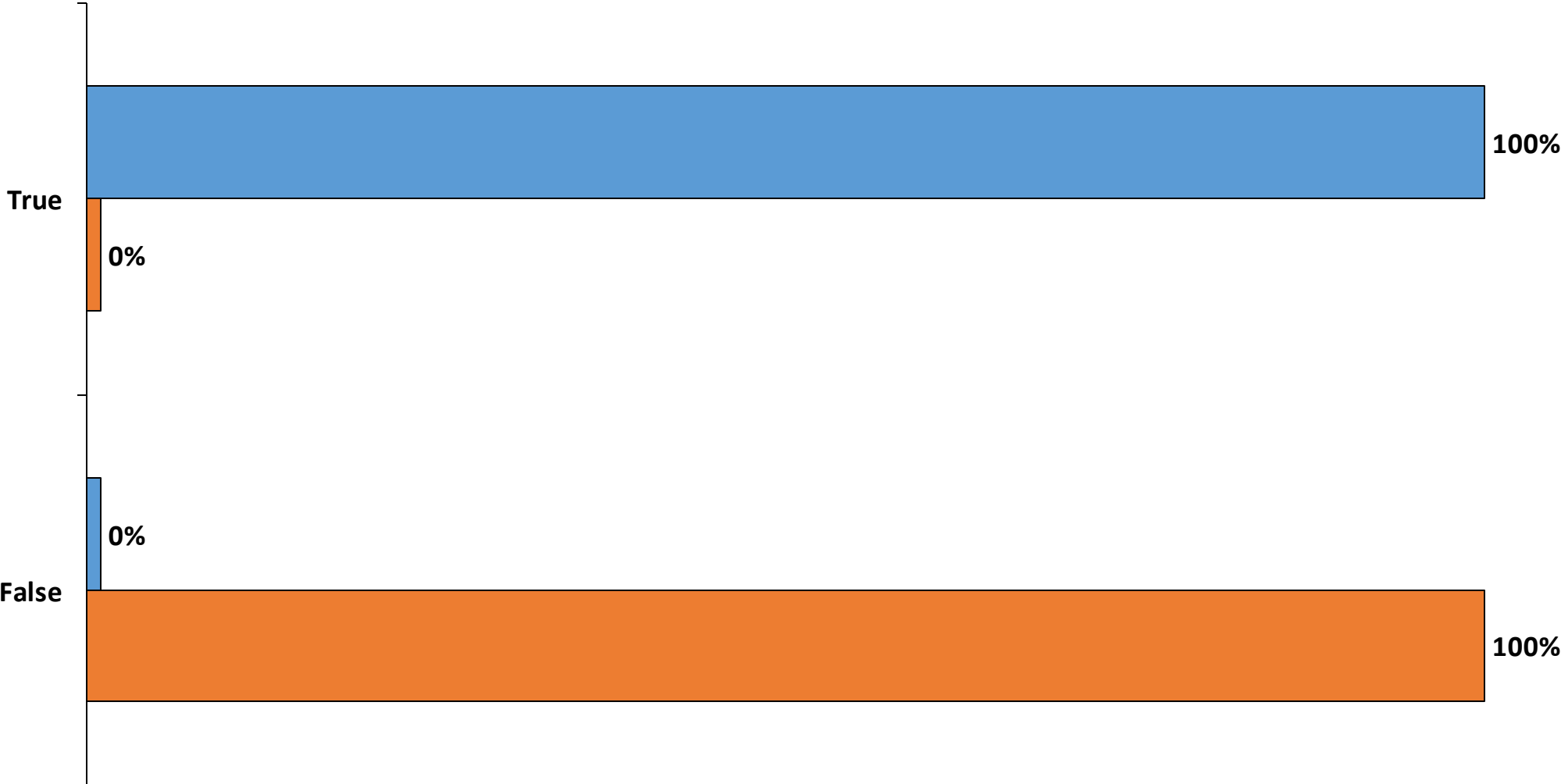


Tomato roots are deep so you don't have to water regularly.

1. True
2. False



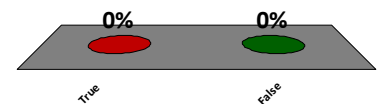
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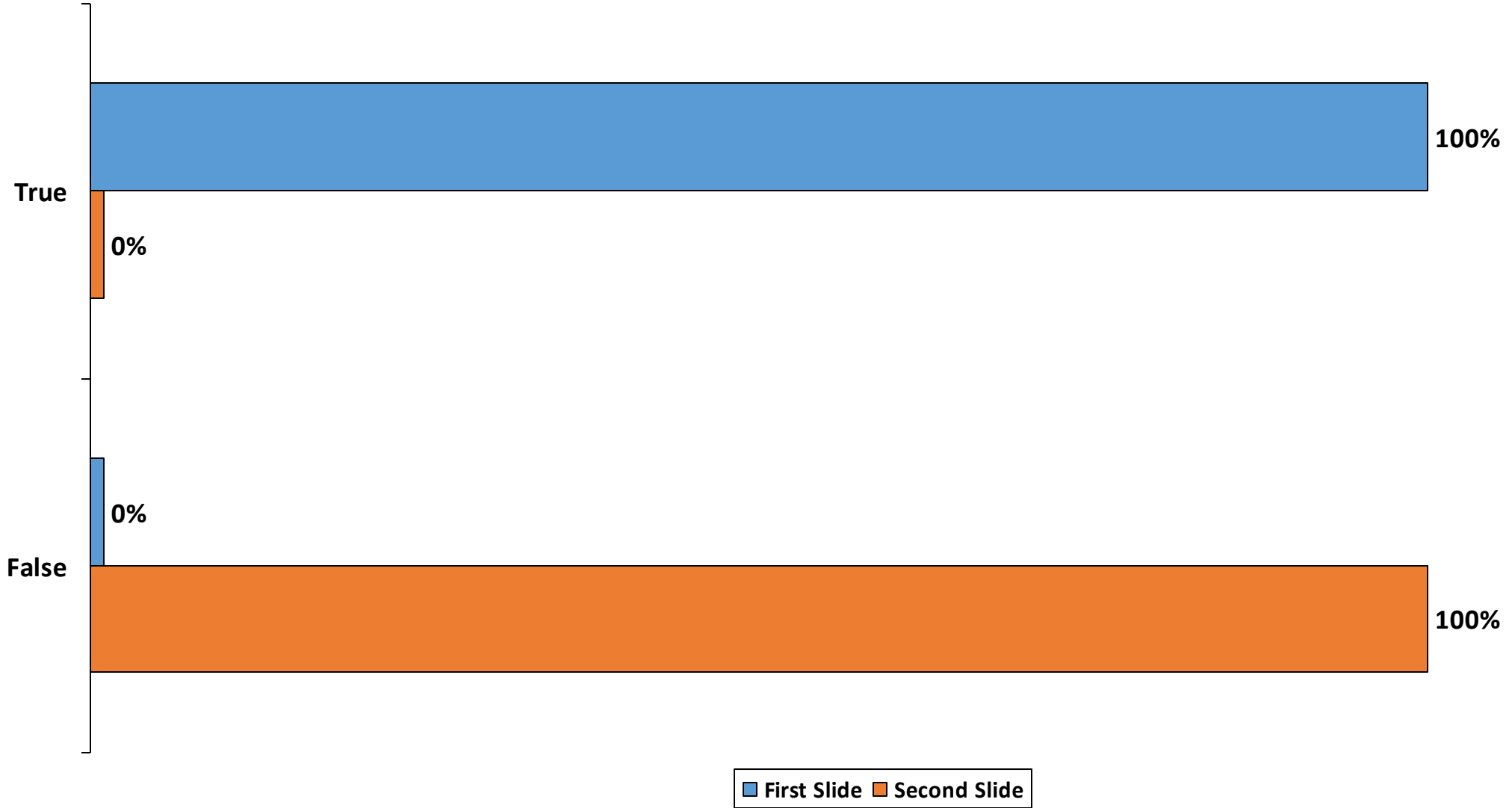
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It's a good idea to stress tomato roots by withholding water.

1. True
2. False



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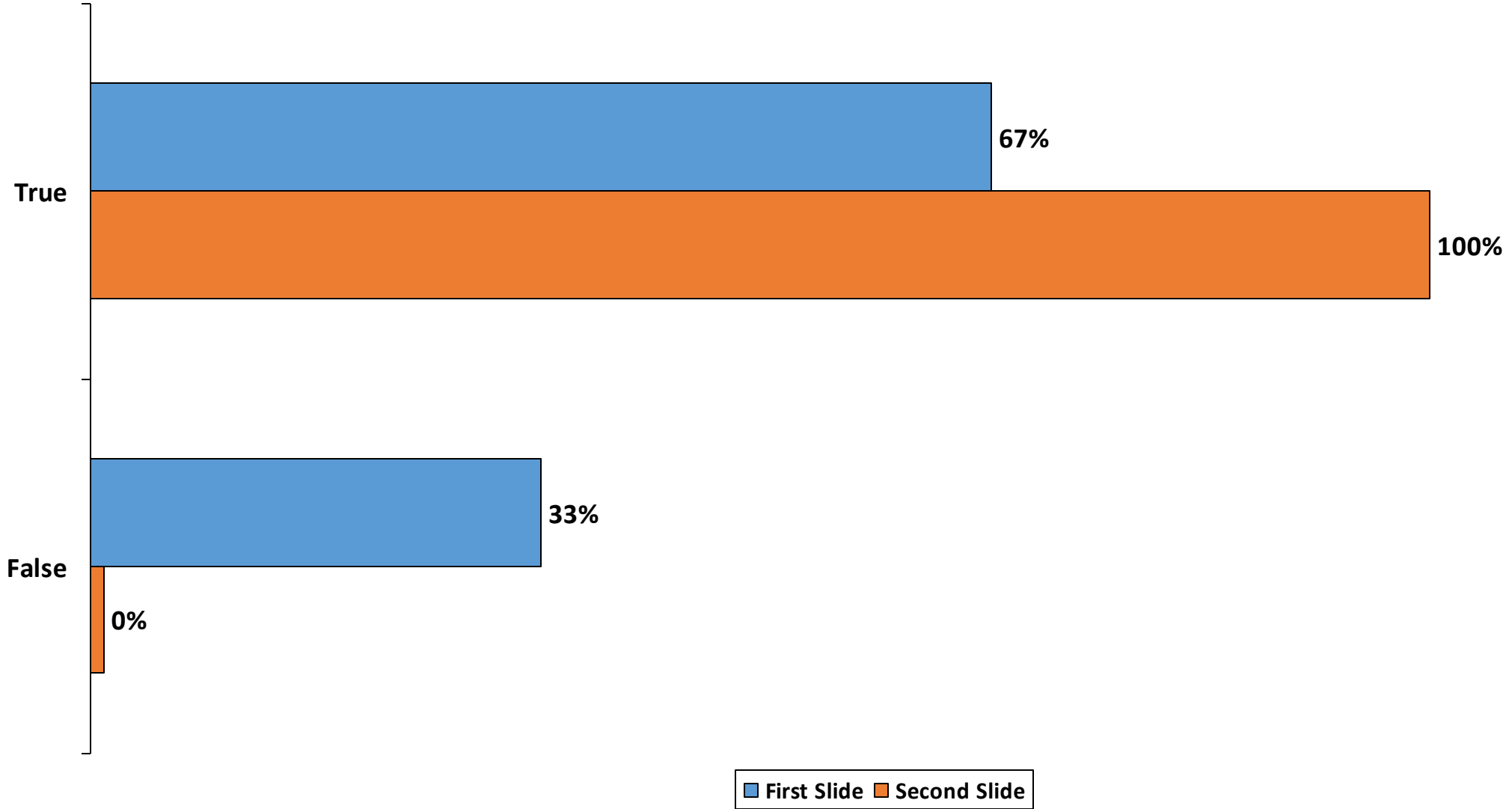


Poor fruit set can be overcome by gently shaking the cage.

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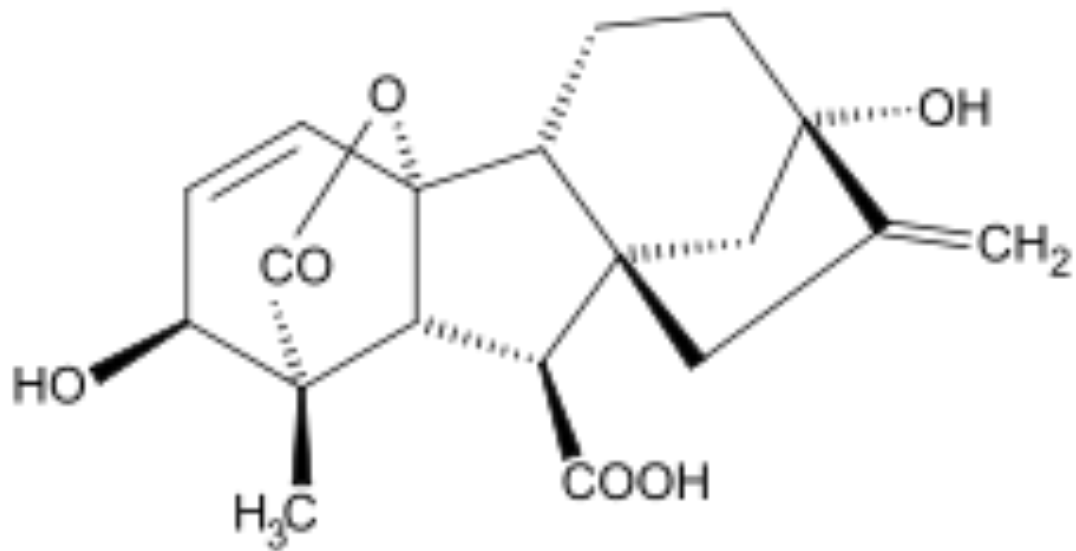


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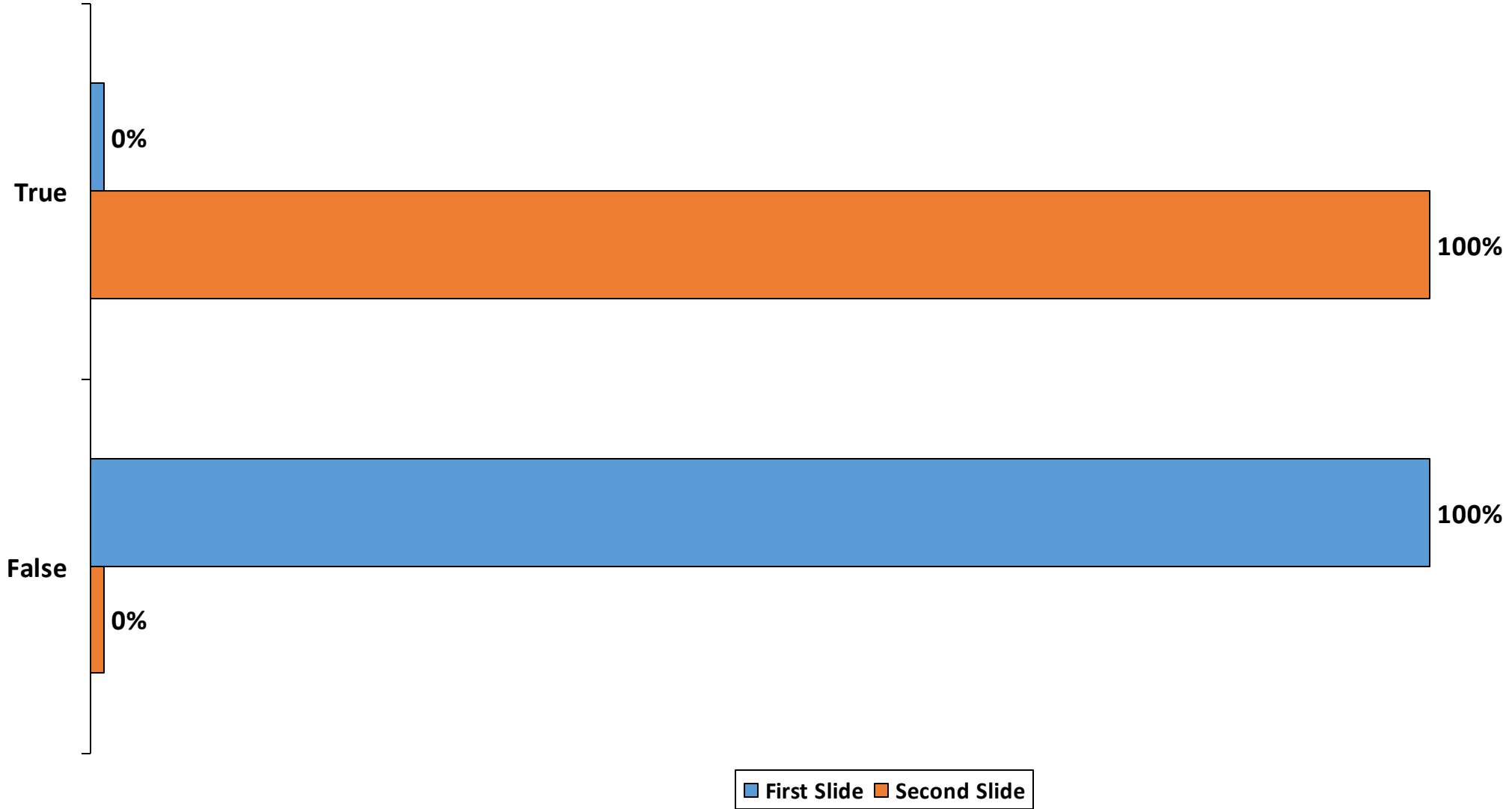


Plant hormones will help pollination.

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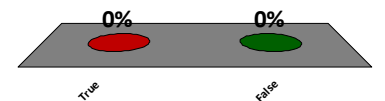


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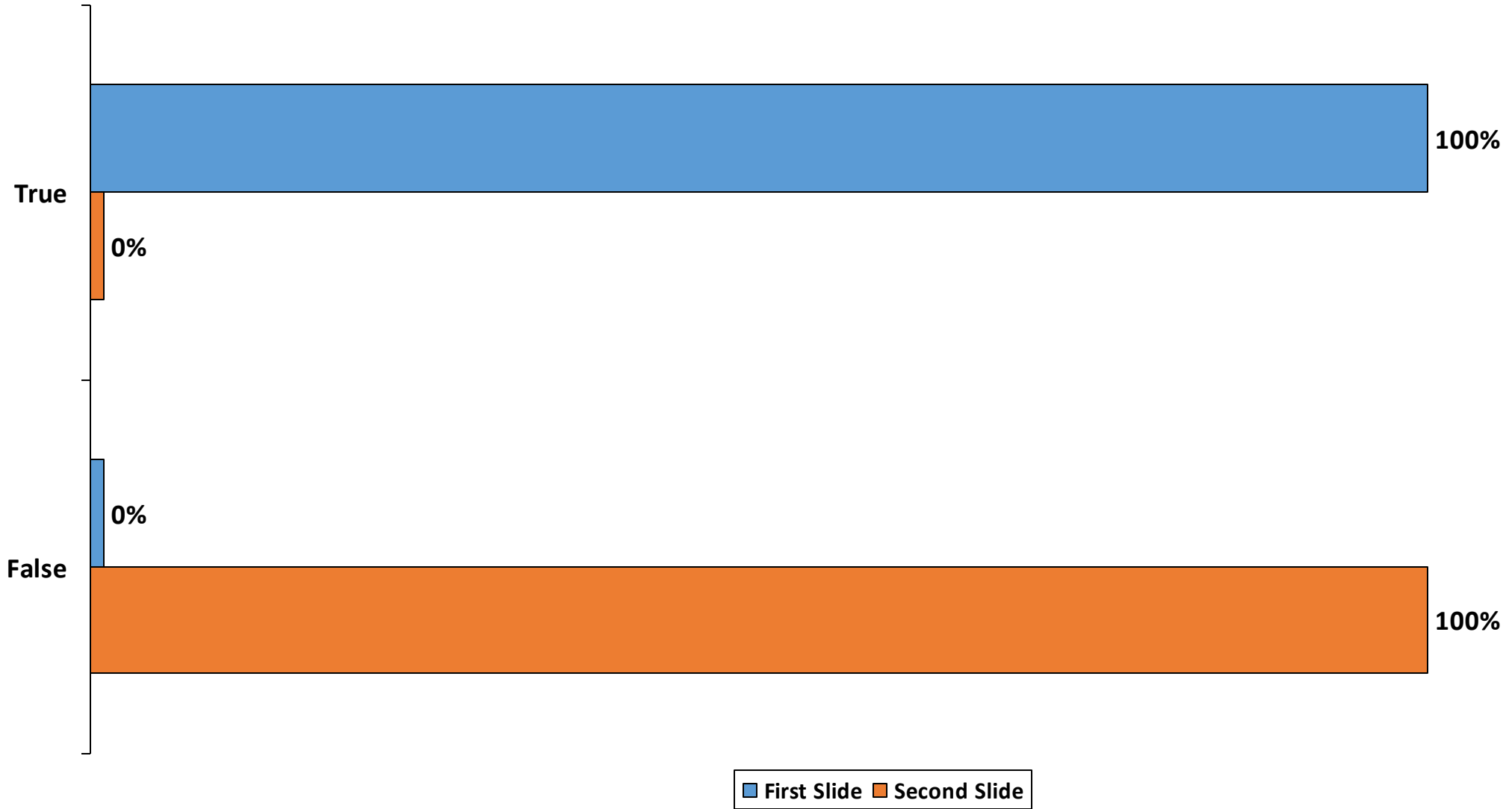


There's nothing a gardener can do to prevent blossom end rot.

1. True
2. False

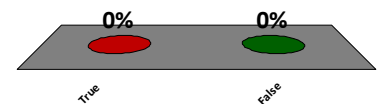


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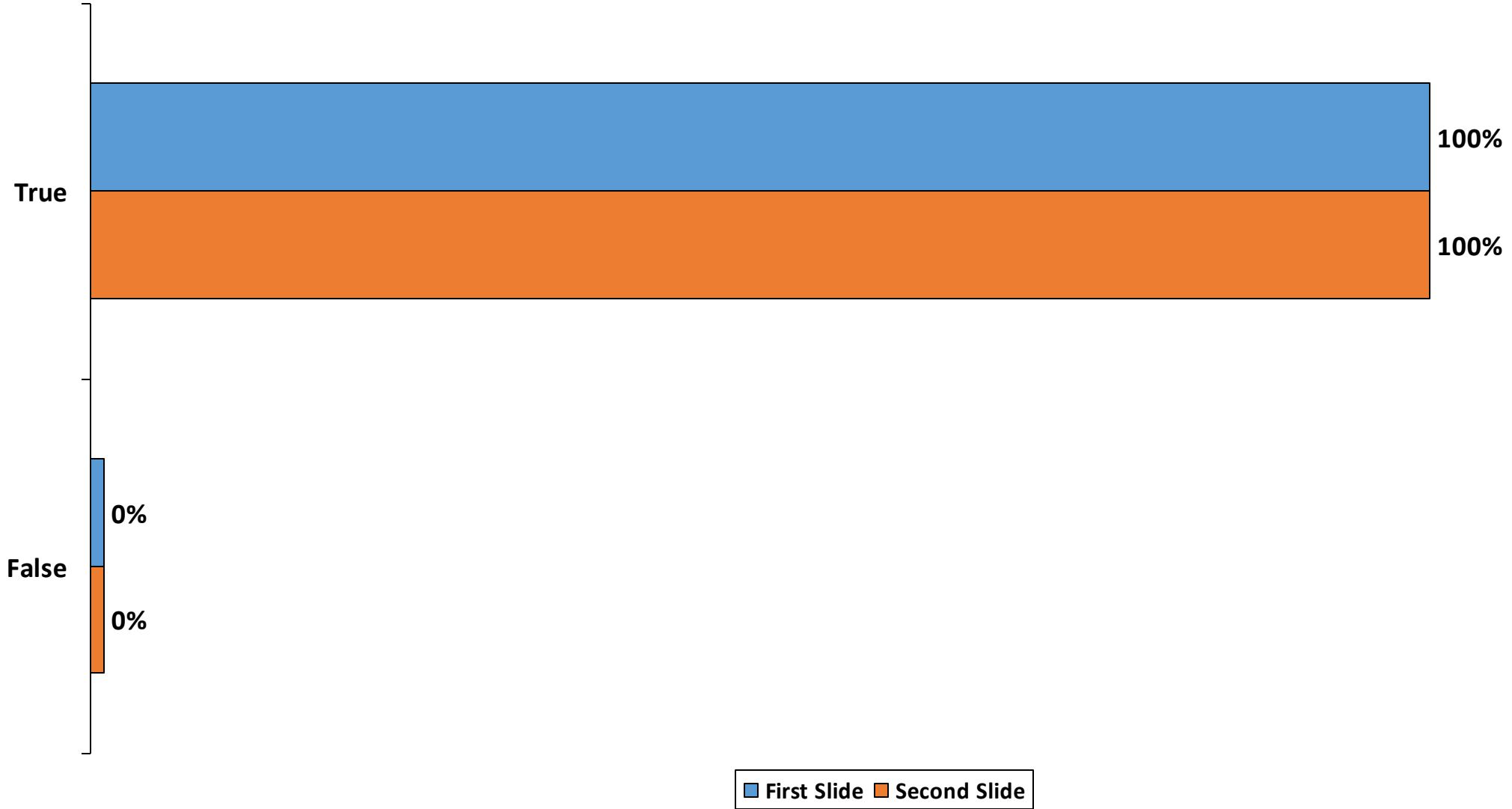


It's okay to prune away excess green leaves.

1. True
2. False



It's okay to prune away excess green leaves.



And to answer the age-old question



KNOWLEDGE is knowing a tomato is a fruit.

WISDOM is not putting it in a fruit salad.

Just One More Thing.....

TOMATO PLANTS
STRONG YOUNG PLANTS
MANY VARIETIES



Saturday, April 23, 2016
1710 Soscol Ave., Napa

9:00 AM
Until sold out

NEW LOCATION!
EASY PARKING

~ BRING YOUR OWN BOX ~ 

UC Master Gardeners of Napa County
<http://ucanr.edu/ucmgnapa>

Questions?



Thank you! And please, tell a friend!

Thank you!

