



Drought Management

2018 California Sheep & Goat Grazing School

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UCCE – Placer/Nevada/Sutter/Yuba

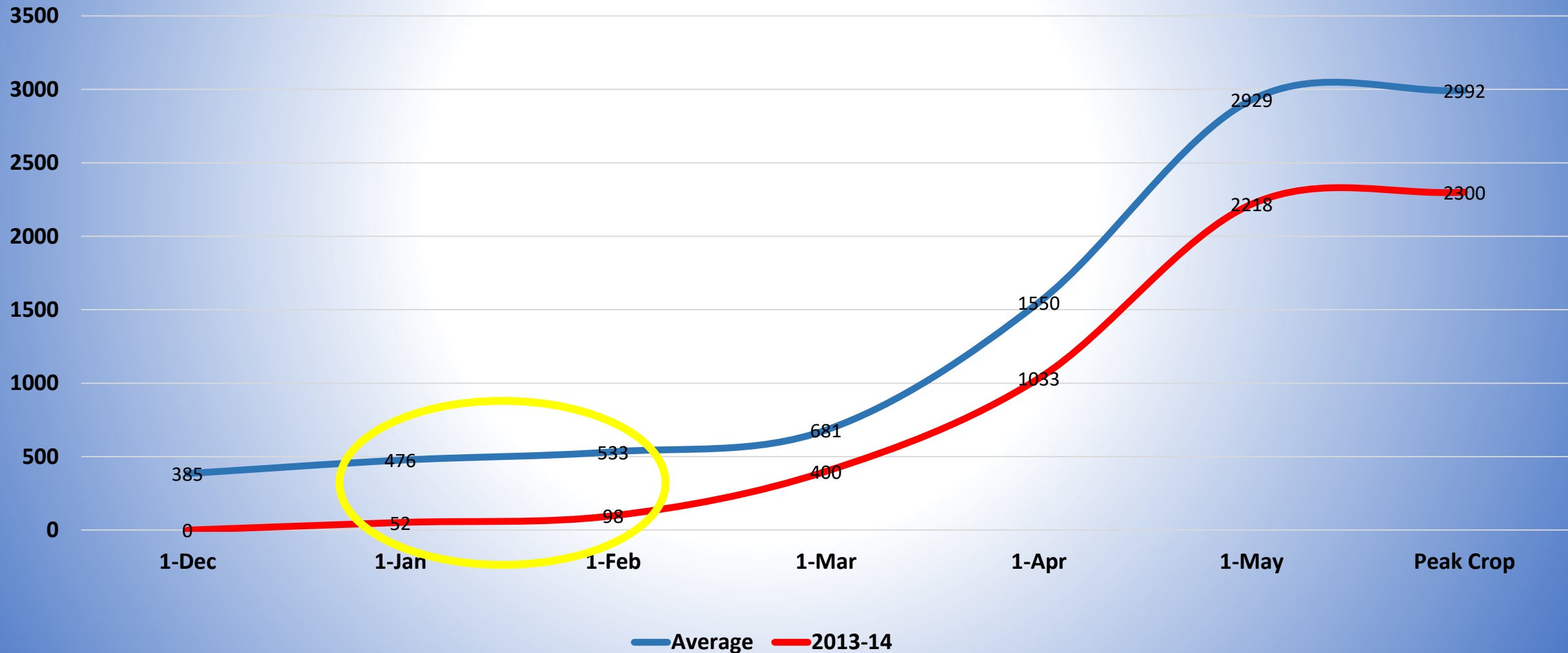
Overview

- **Drought Preparation**
- **Drought Response**
- **Drought Recovery**
- **Writing down your plan**
- **Implementation – key dates and making decisions**



Let's go back in time...

Monthly Rangeland Forage Production – SFREC (average vs. 2013-14)



Drought Strategies



**Drought
Recovery
Strategies**

Lessons from the Last Drought: Drought Preparation Strategies

Strategy	% Adoption	Perceived Effectiveness	
		1 (not effective)	5 (highly effective)
Incorporate pasture rest into grazing plan	91%		4.25
Identify animals that would be sold in case of drought	79%		3.94
Stockpile forage	76%		3.89
Conservative stocking rate	67%		4.33
Purchase forage insurance	42%		3.84
Use 1-3 month forecasts	37%		3.06
Graze multiple classes of livestock	27%		4.08

N = 48 rangeland cattle, sheep and goat producers

Lessons from the Last Drought: Drought Response Strategies

Strategy	% Adoption	Perceived Effectiveness	
		1 (not effective)	5 (highly effective)
Purchased feed	83%		4.38
Applied for government assistance	74%		3.47
Weaned early	63%		4.03
Reduced herd size	61%		4.07
Changed irrigation practices	61%		3.47
Sold retained females	58%		3.96
Developed/hailed stockwater	56%		4.44

N = 48 rangeland cattle, sheep and goat producers

Drought Recovery Strategies

- **Rebuilding flock**
 - **Internal Growth (retaining females) vs. Purchasing**
- **Rebuilding ecological function**
 - **Managing weeds**
 - **Protecting soil**
 - **Restoring forage production**
- **Rebuilding financial position**

Recovering from Drought

**What are your
Drought
Recovery
Strategies?**

Key Elements of a Drought Plan

Preparation

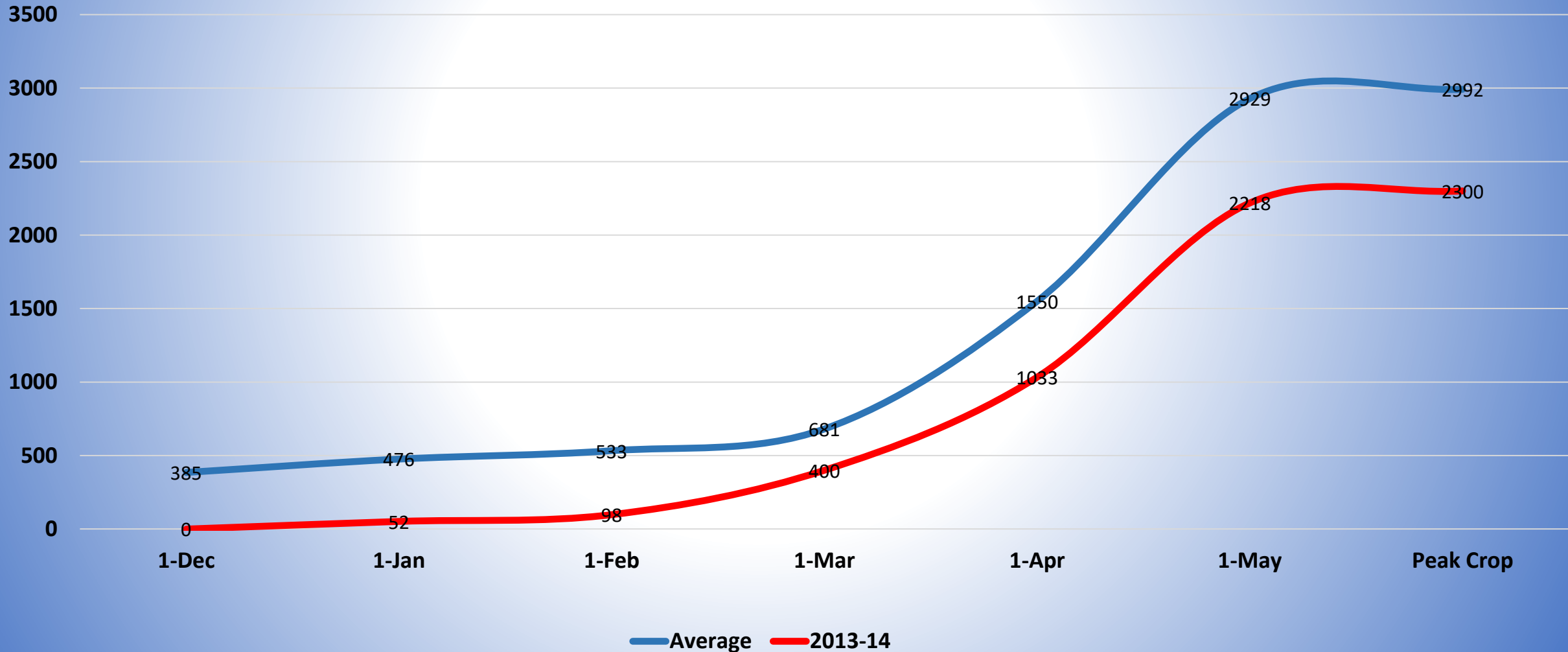
- Identify key management strategies that provide flexibility in case of drought. Examples?
- Develop skillset and equipment that enhance flexibility.
- Track key predictive indicators (weather and forage).

Response

- Identify strategies, actions and critical dates for implementation.
- Compare the economic and ecological costs of specific strategies with the no action alternative.

What are YOUR critical dates?

Monthly Rangeland Forage Production – SFREC (average vs. 2013-14)



Example: Flying Mule Farm Drought Plan

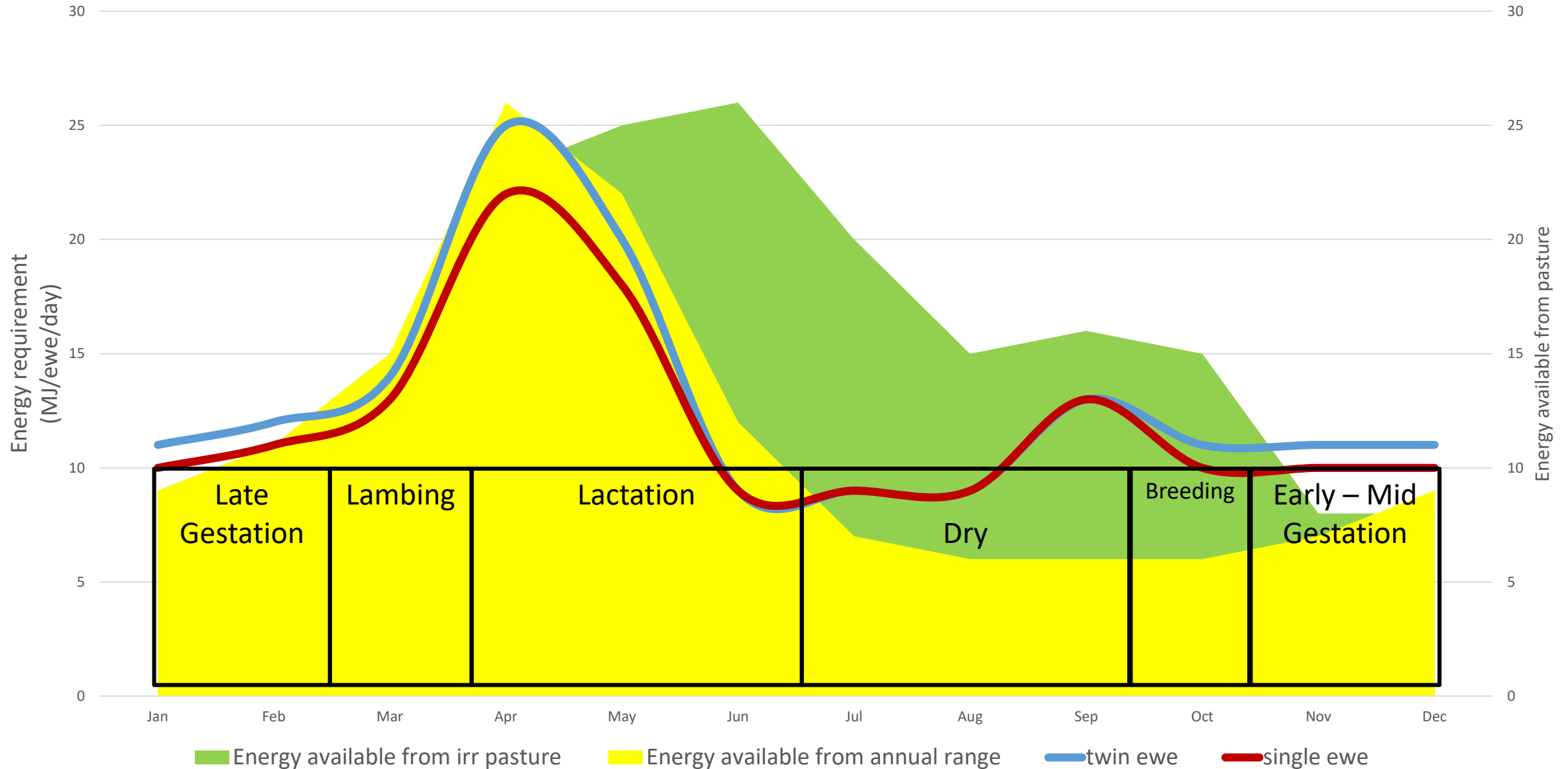
Preparation

- 1. Conservative stocking rate**
- 2. Match management calendar to forage production**
- 3. Plan grazing activities on monthly basis**
- 4. Keep records on ewe productivity and forage production**
- 5. Stockpile forage and rest pastures based on recovery rates**
- 6. Track forage production and long-range weather forecasts**
- 7. Invest in portable fencing and stockwater systems**
- 8. Investigate additional grazing leases and contracts**



Our Forage Calendar

Matching feed requirements of lambing ewes and annual range/irrigated pasture availability.



Example: Flying Mule Farm Drought Plan

Response

Strategy	Action	Critical Date Condition(s)
Reduce forage demand	Sell older ewes	Jun 1 if <50% forage @ peak Sep 1 if fall forage supply is limited Dec 1 if germination has not occurred
Supplemental feeding	Provide protein to bred ewes	Dec 1 if germination has not occurred
Additional labor	Plan for additional labor at lambing	Feb 1 if Jan forage is <50%
Reduce forage demand	Early wean lambs	May 10 (shearing) if Apr forage is <25%
Reduce irrigated forage demand	Early wean lambs	Jun 1 if irrigation water is <25%
Reduce irrigated forage demand	Sell replacements and feeders	Jul 1 if irrigation water is <50%

Example: Flying Mule Farm Drought Plan

Culling Criteria

1. Poor mothers
2. Behavior problems (e.g., lack of respect for electric fence)
3. Broken mouths and/or hard bags
4. Open for 2 consecutive years
5. Ewes > 8 years of age
6. Lower productivity ewes (typically have single lambs)
7. Replacement ewe lambs



**What are
YOUR
Critical Dates and Conditions?**

Online Resources



<http://ucanr.edu/sites/Livestock/>



<http://rangelands.ucdavis.edu/>



<http://ucanr.edu/blogs/ranchinginthefoothills/>