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## California Grazing Academy Planning for Drought

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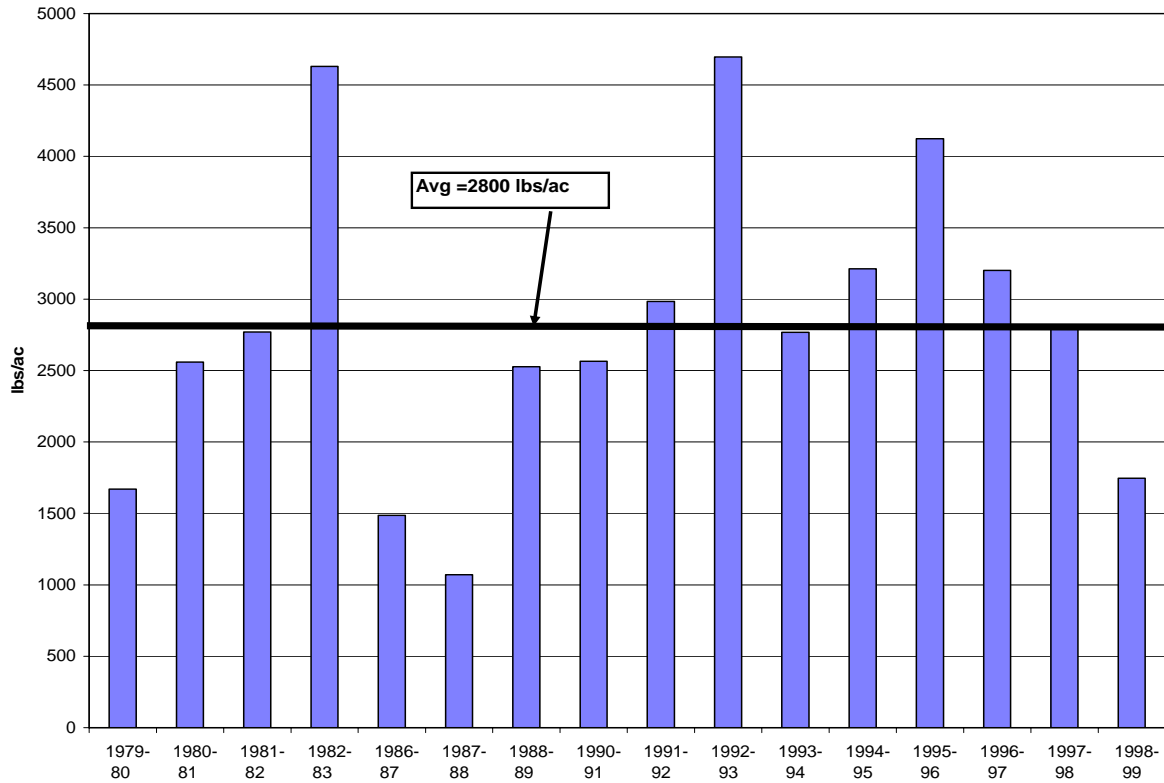
What are you going to do *when* you find yourself faced with another year of drought, *when* the stock ponds don't fill and *when* there isn't enough feed in your pastures to get through the dry season? Do you plan to feed your way out of the drought, sell some animals, or do other options exist? If you destock when will you do it and which animals will you sell? The answers to these questions can be the difference between staying in business or going belly-up.

If you are in the livestock business just about the only thing you can be sure of is that sooner or later there will be another year of drought. (It will probably be sooner.) Are you prepared? Most of us are not. Unfortunately, we only plan for drought when we suddenly find ourselves out of feed or water. Ironically, this is precisely when our planning is least effective and our options are most limited. Markets are flooded and stock prices are lowest, feed prices are highest, and pasture leases are most expensive and scarce. It's easy to avoid planning for drought when the rain is falling and the grass is growing, but this is precisely when our planning is most effective. This article will help you develop a drought policy.

### **FLEXIBLE STOCKING RATE**

Production varies drastically from year to year. If you stock your ranch based on the average forage production you will probably be understocked half of the time and overstocked the other half of the time. To bring this to the real world, the average peak standing forage crop at the Sierra Research and Extension Center is 2800 lbs/ac. If your stocking rate was set to that average, you would have been overstocked for 7 years, about right for 4 years, and understocked for 5 years.

Annual Forage Production



Ranchers should be prepared to fluctuate their stocking rate to match feed conditions. Flexible stocking means ranchers should be prepared to wean calves early or cull heavily when the feed outlook is grim. They should be ready to retain calves as stockers, cull lightly or purchase additional stock in good feed years.

Almost 64% of Grazing Academy participants have been able to make annual adjustments to stocking rate in order to match carrying capacity according to a 2000 survey of Grazing Academy participants. The following are the percentage response by participants on methods of adjustments:

<b>Annual Stocking Rate Adjustments made by Grazing Academy Survey Respondents</b>	
<b>Strategy</b>	<b>% of Survey Respondents using Strategy</b>
Weaning Early	32.8
Culling more heavily	39.7
Retaining more replacements	27.6
Culling lightly	22.4
Retain calves as stockers	31.0

Other strategies noted by at least one survey respondent include:

Increase stock numbers
Buying more cattle
Supplement slaughter lambs to get off pasture
Custom graze at other ranches
Sell as pasture growth slows
Adjust according to feed bank and historical carrying capacity
More or less stockers
Keep dairy heifers until 800 lbs
Rent pasture to take in outside cattle
Limiting or increasing rental cattle
Put & take on fuel load reduction projects

## **DESTOCK EARLY**

If it looks like it will be necessary to destock due to the lack of feed, make the decision to do so early. Selling early will leave more feed for the rest of the herd. The earlier you destock, the fewer animals you'll have to sell. Ranchers who wait for prices to improve before they sell may find the market flooded and prices even lower.

Sell the least productive animals first. Preg check cows and heifers and sell all open animals. Sell late calving cows and heifers since these will require a higher plane of nutrition to rebreed on time.

## **LENGTHEN REST PERIOD**

Plants grow slowly during droughts and require more rest than they do in normal years. The rest period can be lengthened by increasing the number of paddocks, increasing the graze period, or combining herds.

## **INCREASE PADDOCK NUMBERS**

You may be able to overcome feed shortages by increasing paddock numbers and reducing paddock size. The resulting increase in stock density will improve the uniformity of utilization in paddocks.

Increasing the number of paddocks will also increase the rest period for each paddock. For example, if paddocks are grazed half of the time and rested half the time, dividing paddocks in half will reduce the graze period and increase the rest period (figure 2).

FIGURE 2. INCREASING Paddock NUMBER WILL REDUCE THE LENGTH OF THE GRAZE PERIOD AND INCREASE THE REST PERIOD

**TWO Paddock ROTATION**

<b>Graze half of the time</b>
<b>Rest half of the time</b>

**FOUR Paddock ROTATION**

<b>Graze one quarter of the time</b>	
	<b>Rest three quarters of the time</b>

It is important to note that increasing number of paddocks does give us more flexibility in providing rest. However, the main function of increasing paddock numbers is decreasing the graze period. We, as grass managers, determine the amount of rest needed. For example, slow growth on annual range would typically need around a 90-day rest period. Whether we had 2 or 4 paddocks, we would still need 90 days rest. With two paddocks, one paddock would be grazed for 90 days while the other rested 90 days. With four paddocks, one paddock would be grazed for 30 days while the rest would be rested 90 days.

**INCREASE THE GRAZE PERIOD**

Increasing the graze period in each paddock will increase the rest period. For example, grazing a half day longer in each paddock in a 15 paddock cell will result in an extra week of rest for each paddock (figure 3). However, you must exercise caution if you lengthen the graze period. Grazing paddocks too severely will negate the value of the additional rest because it will increase the time it takes for the paddock to recover if all the leaf area is removed.

FIGURE 3. INCREASING THE GRAZE PERIOD SLIGHTLY IN EACH Paddock WILL INCREASE THE REST PERIOD

<b>3-day Graze Periods X 14 Paddocks Resting = 42 days of Rest</b>				
Graze	3	3	3	3
3	3	3	3	3
3	3	3	3	3

<b>3.5-day Graze Periods X 14 Paddocks Resting = 49 days of Rest</b>				
Graze	3.5	3.5	3.5	3.5
3.5	3.5	3.5	3.5	3.5
3.5	3.5	3.5	3.5	3.5

## COMBINE HERDS

Combining herds will increase the number of paddocks resting and increase stock density which will improve the uniformity of utilization. It will also lengthen the rest period

**FIGURE 4. THE REST PERIOD CAN BE INCREASED BY COMBINING HERDS**

<b>Three Herds Grazing 4 Paddocks</b>			
<b>Herd A</b>	-----	-----	-----
<b>Herd B</b>	-----	-----	-----
<b>Herd C</b>	-----	-----	-----
<b>Graze Period = 9 Days</b>		<b>Rest Period = 27 days</b>	
<b>One Herd Grazing 12 Paddocks</b>			
<b>Herds A,B,C</b>	-----	-----	-----
	-	-	
-----	-----	-----	-----
-	-	-	
-----	-----	-----	-----
	-	-	
<b>Graze Period = 3 days</b>		<b>Rest Period = 33 days</b>	

## DROUGHT RESERVE

Some ranchers leave one or two paddocks ungrazed during the spring and summer as a drought reserve. If feed runs out in their other paddocks stock are turned into the drought reserve paddocks at the end of the season.

Most ranchers would be better off if they included these "reserve" paddocks in their grazing rotation. This will allow them to decrease the length of the graze periods and/or increase the rest periods for all paddocks (figure 5). This will result in less severe grazing, better livestock nutrition, and greater total production. The resulting increase in regrowth would be more than the total feed saved in the drought reserve paddocks. In