

Fort Baker Ranges Return to Champagne Grasses

D. W. COOPER

Farm Advisor, California Agricultural Extension Service, Eureka, California

The 24,000-acre Fort Baker ranch is located about 12 miles north of Bridgeville in northwestern California. The original Fort Baker, founded in the middle 1800's, was an Indian fort located near the center of the ranch on what is now the site of a gathering coral. No great Indian war distinguished Fort Baker, although it did have a famous commanding officer, U. S. Grant, when he was a Captain.

For many years this ranch was part of the huge Russ holdings which were divided during the late 1930's. The Fort Baker ranch was given to Mrs. Harville who operated it until November 1, 1951 when Mr. Lee Rice became the owner.

The early grazing history of this property has not been documented but common belief is that for many years as many as 20,000 head of sheep were grazed yearlong. Death camas became widespread and thousands of sheep were poisoned annually. A part of the ranch known as "Bone Flat" still bears evidence of the extensive death losses. Largely because of the drastic losses, a shift was made from sheep to steers. The operation has been based on cows and calves since the estate was divided.

Climate and Soil

The ranch is on rugged terrain with elevations between 850 and 4,500 feet. The climate is typically Mediterranean with warm dry summers and cool wet winters. The approximate average annual precipitation is 50 inches of which 90 percent comes between November and May.

About one-third of the ranch area is in timber-type soils. The remainder supports open grassland and oak woodland types of vegetation. Soils under these vegetation types are slightly acid at the surface and alkaline below. Two of the soil series have free lime concretions in the subsoil and all the parent materials have thin seams of calcite.

Present Livestock Practices

The Harvilles ran approximately 1,000 head of breeding cows and Mr. Rice continued with this number for the first few years of his ownership. From 1951 to 1953 a 70 to 75 percent calf crop was the rule. Average calf weaning weight was 300 to 320 pounds and about 224,000 pounds of beef were sold each year. Mr. Rice now has 550 head of breeding cows. He obtains a 95 percent calf crop and weaning weights run around 415 pounds. During 1958 and 1959 217,568 pounds of beef were sold each year.

The breeding herd is run yearlong on the ranch. The only cattle purchased are replacement bulls. These come from northern California and Oregon breeders and are semen tested when purchased. Calving is in March and the weaners are sold in September. Since 1956, the bull-cow ratio has been 1 to 12.

Selling weights of calves are taken shrinkfree at the ranch. Gathering on horseback over the rugged terrain is carefully done to minimize losses in weight. The cattle are started toward the main corrals three or four weeks in advance of the selling date. During this time replacement calves and the culls are cut from the main herd. The day before the calves are sold, the herd is moved into a holding pasture adjacent to the corral and scales. This pasture of about 200 acres

has an abundance of feed and is used only at sale time. Final separation of the cows and calves is an easy job. After the calves are sold the cows are pregnancy tested and returned to the range.

During the winger and early spring a high protein supplement is available free choice. Daily consumption is regulated with salt. During short periods of snow high quality alfalfa hay is also made available.

Range Management

Range Management on this ranch began as a minor consideration, but has now gained in importance to the point of moving animals from one area to another according to plant growth requirements. As a first step in the process Mr. Rice and his family had to become acquainted with the native perennial grasses. The fact that these plants were green during much of the time when the annuals were dry indicated their value as principal range species.

A management plan based on the growth requirements of the principal plants led to a fencing program. About 20 miles of boundary and 35 miles of cross fencing have been completed at a cost of \$1,100 to \$1,500 per mile. Twenty to 25 additional miles are still needed to completely fence the ranch. Seven original large pastures have been divided into 12 and the final program calls for about 20. These will be about 2,000 acres in size.

The Fort Baker ranges are divided for winter, summer, and spring-fall grazing. The winter ranges are located along 2 rivers at low elevations. The spring-fall ranges are at 2,000 to 3,000 foot elevations and the summer ranges lie above them. One area on each range is deferred for one complete growing season every third year. When the seed has set, cattle are turned onto the deferred range to harvest the forage and trample the seed into the ground.

Changes in Range Condition

A reconnaissance of the ranch in 1956 revealed that perennial grasses made up 4 to 18 percent of the plant composition. It also showed considerable medusa head (*Elymus caput-medusae*) scattered over the ranch with several areas giving the appearance of being pure stands. One of these was the Bon Flat area and an intensive check showed that perennial grasses were completely absent. Today the vegetation on Bone Flat is about 12 percent perennial grasses. Medusa head is still two-thirds of the cover, but is giving way to the native perennials (Table 1.)

Table 1. Percentage species composition by the toe-point method (1,000 points each year) in the Bone Flat area, Fort Baker ranch.

Species	Years			
	1956	1957	1958	1959
	Percentage			
<i>Elymus caput-medusae</i>	100	98.2	67.1	66.3
<i>Danthonia californica</i>	0.7	10.7	10.9
<i>Sitanion hystrix</i>	0.3	4.2	4.1
<i>Stipa spp.</i>	0.1	3.3	3.9
<i>Poa scabrella</i>	2.5	2.3
<i>Poa compressa</i>	0.6	1.2
<i>Festuca idahoensis</i>	0.1	0.5	0.4
<i>Agropyron trachycaulum</i>	0.1
Other annual grasses	0.3	5.4	6.1
Broadleaved herbs	0.3	5.7	4.7

California oatgrass (*Danthonia californica*), Idaho fescue (*Festuca idahoensis*), slender wheatgrass (*Agropyron trachycaulum*), and the several *Stipa* and *Poa* species, which are native to this area are slowly crowding out the annual grasses. Medusa head is no exception. It invaded the range with misuse in the past, but now as the perennial grasses regain vigor, they are driving the annuals out.

California oatgrass is the foundation grass for range grazing in Humboldt County. It is palatable to all classes of livestock and analyzes high, between 8 and 26 percent in protein. The low in protein content comes in January after the herbage has been leached by rain and snow. California oatgrass is truly the champagne grass of these ranges. Besides the high qualities already mentioned, it withstands grazing well and forms a sod when grazed moderately heavy.

An example of the aggressiveness of this champagne grass is demonstrated by one small area called the hay field. Four acres of this area were planted during the late 1940's to an unknown mixture believed to have included subclover (*Trifolium subterraneum*), alta fescue (*Festuca elatior* var. *arundinacea*), Orchard grass (*Dactylis glomerata*) and harding grass (*Phalaris tuberosa* var. *stenoptera*). Hay was cut from this area until 1952. A toe-point analysis in 1956 showed that 55 percent of the stand was California oatgrass and approximately 36 percent seed species. By the spring of 1959, California oatgrass had increased to 80 percent of the plant composition and introduced species were only 10 percent (Table 2). Not one plant of subclover has been found.

Table 2. Percentage species composition by the toe-point method (1,000 points each year) in the hay field, Fort Baker ranch.

	Years	
	1956	1959
	Percentage	
<i>Danthonia californica</i>	55.2	80.1
Seeded species	36.5	9.7
Other	8.3	10.2

There are several areas producing extremely heavy stands of California oatgrass. Cattle are concentrated on them for a few days after the seed is set and then moved to other range, to assist in spreading this highly desirable grass.

The grass-type soils on this ranch are highly fertile and productive. The vegetation has not responded significantly to commercial fertilizers in several small tests. The major results in improving the range have been attained with management and control of grazing.

Summary

When heavy yearlong grazing was the rule on the Fort Baker ranch, most of the choice range forage was consumed early in the year. Range condition was low. Moderate stocking and deferred-rotation grazing now provide good grazing the year around. The improved range condition is reflected in favorable calf weaning weights, calving percentages, and the general health and well-being of the whole herd. Even though a full grazing plan is not in effect on this ranch and cannot be until the ranch is fully fenced, grazing management is changing the range vegetation from annual grasses to native perennials. Weedy annuals have ceased to be a worry. Poor ranges are becoming good ones. The fact that 550 breeding cows are producing within 6,432 pounds as much beef as 1,000 breeding cows did a few years ago is indicative of good livestock and range practices.