PA-VS-53-2

COST OF GROWING ROTATION OF SEASONAL PASTURES (Assumed total yield 9.75 tons dry hay equivalent)

	Oats and Vetch		Sudan	
	Cost per acre	Cost ton hay equivalent	Cost per acre	Cost ton hay equivalent
Labor				
Land preparation	8.00		3.75	
Planting	1.00		1.00	
Irrigating	2.50		5.00	
Fence work	.50		.50	
Total labor & field power	$12.00	$3.00	$10.25	$1.78
Materials				
Seed	5.00		4.50	
Water: pumping power	2.00		8.00	
Fertilizer			10.00	
Total material cost	$ 7.00	$1.75	$22.50	$3.92
Cash overhead, taxes, repairs	$ 3.35	$ .84	$ 5.24	$ .91
Total cash, labor & field power costs	$22.35	$5.59	$37.99	$6.61
Depreciation				
Irrigation facilities, fences and equipment	2.50	.62	4.33	.75
Interest on Investment @5%				
Land @400, facilities & equipment @½ cost ($50)	8.83	2.21	13.67	2.38
Total Costs	$33.68	$8.42	$55.99	$9.74

Summary of Costs

$89.67 Per acre total cost for both winter and summer pastures

Winter crop 4.0 tons hay equivalent dry feed per acre
Sudan grass 5.75 tons dry feed per acre
9.75 tons of dry feed per acre (4.9 tons of total digestible nutrients per acre)

$ .92 cost per 100 pounds of total digestible nutrients

THE AGRICULTURAL EXTENSION SERVICE -
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SEASONAL PASTURE

Mechanically harvested yield tests have indicated a higher annual production per acre with a rotation of seasonal pasture--a cereal or a cereal with vetch rotated to sudan grass--than with any other forage crop. However, when these crops are pastured rather than mechanically harvested, equally high yields should perhaps not be expected.

Requirements--In planting winter pasture there are several factors to consider in deciding which cereal to use. From the standpoint of rate of maturing, oats and vetch make an ideal combination, since they mature together, whereas barley matures ahead of vetch. Barley on the other hand is more alkali-tolerant, and it makes a better growth than oats in cold weather, so that the balance of feed through the pasture season is likely to be somewhat better with barley.

Varieties

Oats----Kanota
Barley--Vaughan will recover especially well following pasturing
Vetch---Purple makes much better growth than common, although purple is considered less palatable. Once cattle become used to it, however, they will eat it readily.
Sudan---Sudan No. 23

Seeding Rates

Cereal alone--100 pounds per acre.
Cereal and Vetch--There is great variation in seeding practice in Kings county, 20 pounds of cereal and 50 pounds of vetch is the University recommendation. However, individuals, particularly if they intend to take off a cutting of hay may vary this seeding rate considerably--all the way to 50 pounds of cereal and 20 pounds of vetch. The reason for decreasing the percentage of vetch, if a hay crop is to be put up, is that vetch grows into a tangled mass which is difficult to mow.
Sudan grass--15 to 20 pounds per acre

Yield--An average yield of 4 tons of dry feed per acre was obtained in two cuttings of a winter pasture variety trial in 1951. This was followed by sudan grass which produced 5.75 tons of dry feed per acre. These are the yields assumed in the cost data on the opposite page.

Fertilizer--The winter pasture crop may or may not respond to nitrogen. It is likely to if a cereal is planted alone, especially if the preceding crop has been a nitrogen-depleting one such as corn.
Sudan grass is a heavy user of nitrogen, and yields are likely to be sharply reduced if nitrogen is not applied, especially if the preceding crop has been a heavy user of nitrogen. Small-area tests may be made at intervals during the growing season using a quick-acting fertilizer such as ammonium nitrate. On the basis of these responses nitrogen may then be applied to the entire field, or withheld if no response is noted. In local yield tests in 1953, sudan grass made a big response to each of two applications of nitrogen, each of sixty pounds per acre, one early and one late in the growing season.

Costs--Certain fixed costs in the data on the opposite page, such as interest, depreciation, etc. have been pro-rated between the summer and the winter crops with the summer crop, because of its higher yield, absorbing the larger portion of these costs.