

Irrigated Ladino Pasture for Hogs

A. W. Oliver



Irrigated Ladino Pasture for Hogs

A. W. Oliver

Associate Animal Husbandman

Consumption of pork in Oregon considerably exceeds current production. According to estimates, Oregon produced only 41 per cent of the pork consumed in Oregon during the same year.

More than 70 per cent of the cost of pork production is feed. Any reduction that can be made in feed costs increases the likelihood of profitable pork production. The trials reported here were designed to investigate the feasibility of irrigated ladino clover pastures in reducing the cost of feed in the production of pork.

One of the best ways to reduce the cost of production when feeding spring pigs for market or when growing breeding stock is to have good pastures. Oregon farmers have been increasing the acreage of pastures, especially of irrigated pastures. They have recognized that the returns are high without the necessity of plowing and cultivating the crop each year---and that the cost of harvesting is eliminated. There are 50,000 to 55,000 acres of irrigated land in the Willamette Valley according to the best current estimates. Of this land, probably 50 per cent is used for pasture.

Ladino Clover as a Pasture Crop

Ladino clover, where it can be irrigated, has become a standard pasture crop in Oregon. It is suitable for all kinds of livestock and probably produces the heaviest yield of any irrigated pasture crop. Details on the establishment and management of ladino clover pastures are included in Agricultural Experiment Station Circular 161, "Ladino Clover for Western Oregon."

Trials indicate that one acre of ladino clover will produce about 700 pounds of live pork during the grazing season. Best results are obtained with hogs when ladino clover is seeded alone without any of the grasses because ladino clover is more palatable than the grasses and also is higher in protein. This high protein content makes ladino clover valuable in supplementing the grains that are fed to hogs.

Hogs do not bloat from ladino so it is not necessary to plant grass with it for this reason as it is for some other kinds of livestock.

Experiments Demonstrate Value of Pastures

To determine the value of irrigated ladino pastures for hogs, trials were started at the Oregon Agricultural Experiment Station more than 10 years ago. Individual experiments conducted since then have demonstrated clearly that one acre of irrigated ladino clover pasture will replace from 2,200 to 2,700 pounds of grain in the ration.

The first experiment in growing and fattening pigs on ladino clover pasture was started May 17, 1940. Pigs used were weanlings from the College herd of Berkshires, Poland Chinas, and Durocs. For the 126-day tests, pigs were divided into three lots.

Lot I was fed a limited ration. Pigs received 2 pounds of grain per 100 pounds live weight per day until they averaged 100 pounds live weight. They were then fed all they would consume.

Lot II was self fed throughout the experiment. This provided a comparison with Lot I as to the advantages of the limited ration over self feeding during the growing and fattening period.

Lot III was fed and housed in the hog barn.

Drinking water, feed, and shade were provided at one end of the pasture used in trials. The results of the experiment indicate that pigs fed a limited ration during the growing period make better use of ladino pasture. They do not gain quite as fast nor are they ready for market as soon as the pigs self fed.

With Lot I, the one acre of ladino pasture replaced 2,271 pounds of grain mixture in the ration. With Lot II, the pasture replaced 1,795 pounds of grain mixture. The grain mix required per hundredweight of gain was 261 pounds for Lot I, 294 pounds for Lot II, and 329 pounds for Lot III. (Table 1)

A similar experiment was run in 1941 to check the value of the pastures and to determine whether ladino clover is high enough in protein to balance a ration for fattening pigs. Pigs in the experiment were fed through self feeders.

Three lots of pigs were used in the 1941 trial. Lot I was fed meat meal as 5 per cent of the ration until the pigs averaged 100 pounds live weight. After that they were fed only ground barley. Lot II pigs were fed meat meal throughout the experiment to provide the comparison on the need for a protein supplement. Lot III pigs were dry-lot fed throughout the test on a ration of 85 per cent barley, 10 per cent meat meal, and 5 per cent alfalfa. Lots I and II had pasture throughout the trials. Lot III had no pasture.

Results of the trial indicate that pigs fed a protein supplement throughout the growing and fattening periods make slightly more economical gain and returned more per acre of pasture. The difference may not be sufficient under some conditions, however, to pay the additional cost of the meat meal. With Lot I, the one acre of ladino pasture replaced 2,542 pounds of grain in the

ration; with Lot II, the pasture replaced 2,723 pounds of grain mixture. The feed required per hundredweight of gain was 346.5 pounds for Lot I, 343 pounds for Lot II, and 403.4 pounds for the dry-lot fed Lot III. (Table 2)

The 1944 experiment was designed to compare the value of tankage and soybean oil for fattening pigs pastured on ladino clover. With the daily feed the same, the daily gain was slightly better for soybean oil meal and the feed required per hundredweight of gain was slightly less, indicating that soybean oil meal is equal to tankage as a protein supplement for fattening pigs on ladino clover. (Table 3)



Table 1: Pasture Experiments, 1940

(126 Days on Test)

Lot and description	Average initial weight	Daily feed	Daily gain	Average final weight	Grain mix per 100-pound gain	Grain replaced by pasture per acre
	<u>Pounds</u>	<u>Pounds</u>	<u>Pounds</u>	<u>Pounds</u>	<u>Pounds</u>	<u>Pounds</u>
<u>Lot I</u> 30 pigs. Limited grain to 100 pounds, then full fed. Pasture throughout test.	53.8	3.2	1.23	175	261	2,271
<u>Lot II*</u> 36 pigs. Self fed. Pasture throughout test.	31	3.7	1.27	175	294	1,795
<u>Lot III+</u> 10 pigs. Dry-lot fed. No pasture.	55.9	4.2	1.30	162	329	-----

*Ration for Lots I and II, ground wheat, 91.5 per cent; fish meal, 7 per cent; mineral, 1.5 per cent.

+Ration for Lot III: ground wheat, 85 per cent; fish meal, 10 per cent; alfalfa meal, 5 per cent.

Table 2: Pasture Experiments, 1941

(112 Days on Test)

Lot and description	Average initial weight	Daily feed	Daily gain	Average final weight	Grain mix per 100- pound gain	Grain replaced by pastures per acre
	<u>Pounds</u>	<u>Pounds</u>	<u>Pounds</u>	<u>Pounds</u>	<u>Pounds</u>	<u>Pounds</u>
<u>Lot I</u>						
32 pigs. Ration of 95% barley, 5% meat meal to 100 pounds live weight. Only barley above 100 pounds live weight. Pasture throughout.	47.2	4.40	1.27	190	346.5	2,542
<u>Lot II</u>						
30 pigs. Ration of 95% barley, 5% meat meal through- out. Pasture throughout.	49.5	4.67	1.46	204	343	2,723
<u>Lot III</u>						
10 pigs. Dry-lot fed. Ration of 85% barley, 10% meat meal, 5% alfalfa meal throughout. No pasture.	46	5.44	1.47	202	403.4	---

Table 3: Pasture Experiments, 1944. Tankage Compared with Soybean Oil Meal
(56 Days on Test)

<u>Lot and description</u>	<u>Average initial weight</u>	<u>Daily feed</u>	<u>Daily gain</u>	<u>Average final weight</u>	<u>Feed mix per 100- pound gain</u>	<u>Total gain</u>
	<u>Pounds</u>	<u>Pounds</u>	<u>Pounds</u>	<u>Pounds</u>	<u>Pounds</u>	<u>Pounds</u>
<u>Lot I</u>						
22 pigs. Ration of 95% ground wheat and 5% tankage.	102	5.51	1.4	183	383	1,782
<u>Lot II</u>						
22 pigs. Ration of 92½% ground wheat and 7½% soybean oil meal.	102	5.51	1.5	186	363	1,848

Summary

The 1940 experiment indicates that pigs do slightly better and make better returns when fed a limited ration during the growing period and then self fed during the fattening period. They are not ready for market as soon as the pigs fed on a self feeder.

In the 1941 experiments the pigs gained faster and on slightly less feed when barley was supplemented with meat meal through the entire feeding period, including growing and fattening.

The 1944 experiment indicates that soybean oil meal is a satisfactory protein supplement when fed with wheat on ladino pasture.

An acre of irrigated ladino clover when pastured with pigs will replace from 2,200-2,700 pounds of grain in their ration or an acre of ladino will produce about 700 pounds of live pork per grazing season.