Swine Feeding Tests
supplemented cooked garbage tested
in feeding trials in Los Angeles County

Hubert Heitman, Jr., and Chester A. Perry

Disposal of garbage as swine feed is of special importance in California—the leading state in numbers of garbage-fed swine—particularly in regions adjacent to densely populated areas, such as Los Angeles and San Francisco.

Prior to the national spread of vesicular exanthema in 1952, garbage feeding was not as suitable a feed for swine as that fed raw. Because hog feeders in the state were not familiar with cooked garbage as a feed, studies were undertaken to demonstrate its usefulness and value.

Three feeding trials have been conducted on a large garbage feeding ranch in Los Angeles County. In each experiment there were 12 pens of four pigs each available. The hogs were Hampshires and typical of the area. The garbage was typical residential garbage and was well segregated, even though some paper and cans were present. It was hauled to the ranch in large trucks and semi-trailers with a capacity of approximately 20 tons. Steam pipes fastened on the beds of the trailers can be connected by flexible hoses to a steam generator to cook the garbage by steam injection.

Garbage was fed in wooden troughs to allow weighbacks, and dry feeds were fed in metal troughs. When antibiotic supplement was fed alone with garbage, the weighed quantity was mixed with a small quantity of garbage which was completely consumed before the remainder of the garbage was fed. Garbage was free-fed, and the level set was so that the weighback ran from one third to one half of the feed fed.

In the first two trials the supplemental value of barley was studied. Ground barley was fed at a rate estimated to be 10% of the dry matter requirement, or from 0.40-0.53 pound per pig per day.

The addition of barley increased weight gain about 20% in both trials, while in Trial 2 the daily garbage consumption was reduced, resulting in a greater weighback. Garbage fed and consumed per pound of gain was reduced.

One pound of barley replaced 9-10 pounds of cooked residential garbage in Trials 1 and 2. When a mixture of equal parts ground barley and alfalfa meal was fed as 10% of the estimated dry matter requirement—Trial 1—results indicated that the beneficial effects were due to the amount of barley the supplement contained. One pound of mixture replaced approximately five pounds of garbage.

In Trials 2 and 3, the addition of the antibiotic aureomycin at a level of 0.1 gram daily per pig was studied. This level approximates 35-50 grams per ton of dry feed. In Trial 2 the addition of aureomycin supplement increased weight gain about 28% and decreased the amount of garbage fed and consumed per unit of gain by about 22%. The results of antibiotic supplementation in Trial 3 were negative and failed to substantiate those of Trial 2.

Level of garbage feeding was shown in Trial 3 to affect weight increase even though at the lowest level of garbage feeding there was over 20% weighback. As the average daily feed was increased from 16.5 pounds to 25.0 pounds daily per pig, weight gain was increased 15% and when increased to 36.1 pounds daily per pig, the weight gain was 18% greater. The increase in rate of feeding caused an actual increase in garbage consumption of 26% and 11% that was reflected in increased gain. But the increase in feed increased the weighback and the amount fed per unit of gain.

At the level of garbage feeding established—weighback one third to one half—each ton of cooked garbage fed produced 48-80 pounds of pork. In Trial 3 the increased level of feeding decreased the amount of pork produced per ton of garbage fed from 63 pounds to 39 pounds. These figures are undoubtedly higher than growers obtain in practice because of the smaller groups used in these trials and resultant less crowded conditions. They also emphasize the large problem feeders have in disposal of weighback where feeding level of garbage is high with resultant higher gains.

The equivocal results obtained with antibiotic are not unexpected because they are representative of results obtained under typical grain feeding conditions. The use of grain supplement and level of garbage feeding will be determined...
LETTUCE APHID

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deply and allowed to dry thoroughly before being replanted to lettuce. Often lettuce can produce a satisfactory crop—even with a heavy infestation of aphids—if it can be made to grow rapidly. Even, adequate irrigation and the elimination of cracks through which winged aphids can enter the soil often assist in averting damage.

Some varietal differences in susceptibility to the lettuce root aphid have been observed. Imperial strain E-4—currently not an acceptable commercial variety—is the most resistant variety found to date, and attempts are being made to incorporate that resistance in the commercial variety Great Lakes.

Based on the results of the investigations in 1956, it is possible to control the European lettuce root aphid by a preplanting soil treatment with parathion at five pounds of actual chemical per acre. However, parathion is a highly toxic organic phosphate insecticide and all precautions and rules on the label should be followed and permits from the County Agricultural Commissioner are required before it can be purchased or used. Parathion should only be used for summer and fall harvested acreages and ordinarily only where there is a history of aphid attacks. Protection will probably last for only a single crop.

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The analyses for the presence of parathion were made by Professor W. M. Hoskins and the Insect Toxicology Laboratory, University of California, Berkeley.

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Rancher C. J. Lyons of Saugus cooperated in the swine feeding trials.

STRAWBERRY

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rooting habit of the strawberry, because most of its feeder roots are rather shallow. When the strawberry beds were formed the top soil—which had a good potassium content—was piled together. Therefore, most of the strawberry roots were in soil with an adequate potassium supplying potential. This contrasts with the apricot trees, which had no roots in the cultivated surface and were unable to obtain adequate supplies from the deeper layers of soil. The fact that the apricot requires large amounts of potassium as shown by leaf analyses may also be pertinent.

The reason for the failure of the strawberry plants to absorb potassium from the added fertilizer is not so clear. The large amount applied to the beds should have encouraged luxury consumption. This trial does not provide any basis for considering the use of a complete fertilizer for strawberries under similar conditions. Further trials are in progress in other districts to determine what may be expected on other soil types and under different climatic conditions.

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CUTTINGS

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alcohol can be used satisfactorily. This solution will keep indefinitely without losing its effectiveness, but should be tightly sealed and stored in the dark.

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