CIRCULAR 166
APRIL 1950

THE GARBAGE HOG FEEDING BUSINESS IN CALIFORNIA

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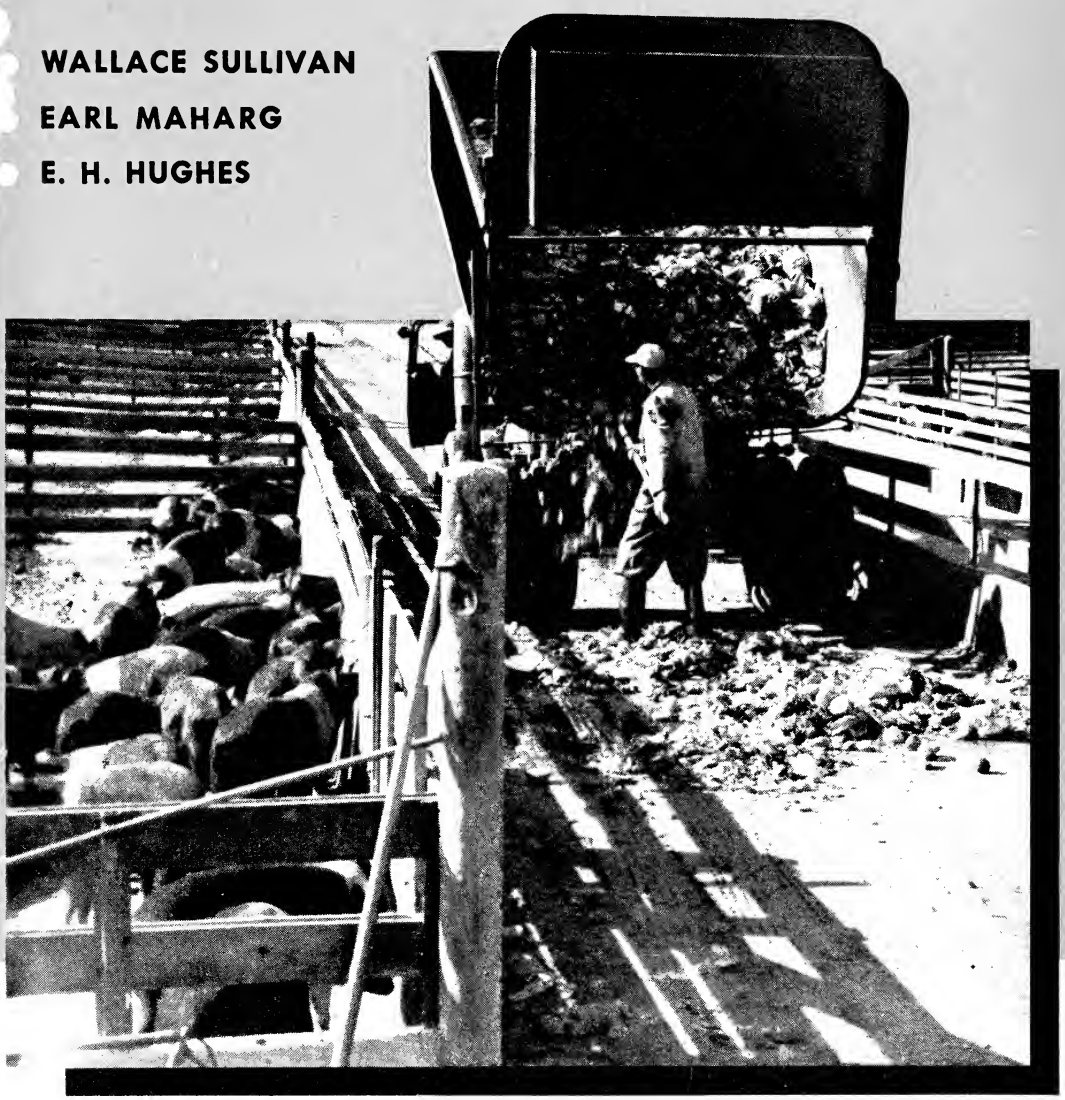

CALIFORNIA AGRICULTURAL EXTENSION SERVICE • THE COLLEGE OF AGRICULTURE
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This Circular

is the result of a 3-year management study of successful garbage hog feeding establishments in southern California. It explains and gives suggestions on the points of good management that can make the above equation work satisfactorily. These are the points covered:

Laying out the feeding lot so that a minimum of time and motion is used in performing the necessary chores.

The elements of good breeding management—keeping the breeding and feeding herds in balance with the amount of feed available. Lowering the mortality rate in farrowing.

Keeping costs in line by balancing labor and feed with the size of the herd—cutting corners where possible.

Maintaining accurate records that will point out management errors and show where the money is going.

This is NOT a book on animal husbandry. Better details on hog raising will be found in Extension Circular 15, Pork Production in California—Hughes and Heitman. Revised 1949.

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Garbage Going to Waste

or to "Waist"

During the last 83 years, the number of hogs on farms in California has remained relatively constant at somewhere around ¾ of a millon. About 40 per cent of these pigs are now fed on garbage feeding establishments.

During this same period the human population of the state has grown tremendously and is now estimated to be about 10.5 million. It is also estimated that from 1 to 1½ pounds per day of usable garbage (i.e., scraps of food) per person are thrown into garbage cans or go down the drain from private homes, restaurants, hotels, institutions, food factories and armed services camps.

It has been pretty well proven that 1 ton of garbage will produce approximately 50 pounds of pork.

Thus it is easy to see that millions of pounds of valuable hog feed are produced daily in California and that only a small percentage is being utilized. In many cities no effort is made to utilize residential garbage. Instead of going to waste, this valuable hog feed could be used to put a larger "waist" of solid, edible pork on the hogs.

The California Crop and Livestock Reporting Service made a count of garbage feeding establishments in both 1947 and 1948 and found that the number of such establishments increased from 355 to 417 during the year. They estimate that about 40 per cent of all slaughter hogs raised in the state are now garbage fed.

The 1947 survey showed that most of the feeding lots were located near the two large centers of population, Los Angeles and San Francisco. The later survey showed an increase in the establishments located near smaller towns and cities.

The Arrangement "Just Grew"

The arrangement between garbage disposal authorities and the hog feeders "just grew"; garbage disposal was the primary job, and hog feeding was incidental. But hog feeders are realizing more and more the feeding value of table scraps and edible waste material from homes, food plants and large institutions. There is a definite opportunity in converting what would be a total loss into a useful and profitable product.

The Topsy-like growth of the industry has, however, resulted in certain factors that tend to retard rapid expansion—factors that could be resolved by better laws and a better understanding between the hog feeders and the state and local regulating authorities.

Better Arrangements

Are Needed

The requirements of public health and sanitation regulations are not always well defined, so many hog feeders are uncertain as to the security of their locations. New zoning ordinances, or nuisance complaints of old or new neighbors may cause them to move to new locations. Moving is expensive. This lack of security in tenure encourages temporary and inadequate construction of sanitary facilities.

Greater stability in regulations would encourage good construction that would satisfy sanitary and health regulations.

Feeders are not always certain that their garbage hauling contract (a vital factor in the business) will be renewed

when it expires. The development of model ordinances regulating the collection and disposal of garbage, that could be used throughout the state would tend to greater stability and understanding.

Much could be gained for all parties concerned by conferring together on improved methods of garbage collection and disposal, and clarification of what constitutes a nuisance in regard to garbage feeding.

During the period 1945–1948, the Agricultural Extension Service and Experiment Station of the University of California, coöperating with the California Hog Feeders Association of Los Angeles and the Los Angeles County Farm Bureau, made a study of management practices on several large garbage feeding establishments in southern California. On these lots were 3,132 brood sows (years) that farrowed 42,274 pigs that produced 5.5 million pounds of pork.

The remainder of this circular presents the findings covering inputs of feed, labor, material and capital, costs and production of pork as determined from the study. The results and recommendations given here will apply generally to all parts of the state.

The Basic Needs
Must Be Considered

There are certain over-all factors of location and nuisance control that must be considered in any garbage feeding establishment.

What about location? Obviously, it is necessary to locate a feeding lot as close as possible to an adequate supply of garbage. This usually means within a reasonable hauling distance of a city or town, yet far enough from the center of population to avoid the possibility of being declared a nuisance and being forced to move. Moving is expensive, since very little of the equipment can be taken or salvaged.

In choosing a location, a balance must be struck between:

1. Hauling costs.
2. Proximity to population centers.
3. Land costs.

Since new methods of controlling flies and odors are now being used, and more are certain to be developed, perhaps the nuisance factor will tend to diminish in the future.

In any location, however, the feeder should take particular care to control flies and odors, and to keep abreast of local developments as well as possible. Mutual friendship with the local health and sanitation authorities is recommended.

The garbage contract should be given careful consideration, as a dependable supply of feed is extremely important.

If the feeder does the collecting he may be paid a fee for such work.

If the municipality makes the collections and delivers to a collecting depot, the most suitable plan seems to be a sliding scale payment schedule. This scale works both ways: when the price of hogs about equals the cost of production, no charge is made by the municipality; as the price of hogs goes above this point, an increase in the price of garbage is made with each increase of $1.00 per hundredweight in the price of hogs. If the price of hogs goes below the cost of production, the municipality pays for having the garbage hauled away from the collecting point.

It is well to have the garbage contract cover other specific points such as:

1. Whether the nonedible refuse shall be separated from the edible, and who is responsible for the separation.

2. Where the title to the garbage changes hands.
3. The terms by which the contract may be cancelled.

The help of an attorney in drawing up the contract would be useful.

Size of feeding unit is important. In determining the size of the feeding unit, three items of cost should be considered in the order of their importance. Feed is the most important item; hired labor is second, and capital investment in land, equipment and improvements, third.

Thus the number of hogs to be fed would be determined primarily by the garbage contract, or the tons of garbage available during the year. These studies indicate that 35 tons per brood sow, per year, would be a safe figure to use in making a preliminary estimate. The number of hogs fed would be adjusted by experience. The quantity of garbage required will vary widely, depending on the grade and quality obtainable.

From the standpoint of labor utilization, assuming that most of the labor is hired, a 100-sow unit would be the minimum size for reasonable efficiency. This would require one full-time herdsman, supplemented with extra help as needed. The hauling of garbage would be contracted, or a truck driver would be hired by the hour or by the load.

The capital investment per sow unit would decrease as the number of sows increased; certain items such as rolling stock, water supply, housing and storage, and cleaning equipment remain almost constant, or would increase only slightly for 100 sows rather than 50 sows. So here again, it appears that a 100-sow unit would be about the minimum size for reasonable efficiency.

What it Takes
To Get Into Business

A 100-sow unit would require a garbage contract that would yield 3,500 tons of garbage per year, or about 9.5 tons per day.

In addition, the hog feeder must acquire land, buildings and fences, certain equipment, feed and supplies, a water system and, of course, stock. A fairly graphic idea of the various facilities needed can be obtained by study of the pictorial representation of typical efficient garbage feeding establishments shown on pages 10 and 11 in this circular. An idea of the costs involved is as follows:

Investment and Costs. A 100-sow unit would probably require a minimum of 2 acres of land. Improvements would include the following:

1. Cement feeding floors and driveways, with adequate slope and drainage facilities.
2. A watering system to provide drinking fountains for the stock and hydrants for washing down the feeding floors.
3. About 35 individual farrowing pens with feeding floors and small exercise yards in the back.
4. About 12 feeding pens with feeding floors, shelter sheds and exercise yards.
5. A loading chute and loading platform for finished hogs.
6. Fencing, consisting mainly of movable panels and gates.
7. Housing for hired help and a building or buildings for storage of feed, equipment, supplies, rolling stock—possibly office space.
8. A small tractor with loading scoop and spray rig attachment.

Table 1 represents a fair estimate of the cost of land, improvements, equipment, etc., based on 1948 prices, for a 100-sow unit.

TABLE 1. Estimated Investment.

Item	Original Cost	Avg. Invest.	Int. Chg. 5%	Deprc.
		Dollars per sow per year		
Land—2 acres	$ 1,000	$ 10.00	$ .50	.....
Bldgs. and fences	16,000	80.00†	4.00	$ 16.00
Equipment*	4,000	20.00†	1.00	4.00
Feed and supplies	400	4.00	.20	.....
Well-water system	10,000	50.00†	2.50	5.00
Subtotal	31,400	164.00	8.20	25.00
Stock—average all ages	21,770	217.70	10.89	.....
Total	53,170	381.70	19.09	25.00

* Does not include garbage hauling truck.
† One-half original cost.

The Layout Must Be Efficient

The most successful feeding lots are laid out for "production line" operation. The idea is to keep related units together and to provide a more or less continuous flow of animals toward the ultimate goal, the loading out platform. To this end, breeding pens, farrowing pens, dry sow pens and feeding pens are laid out so that the young pigs pass from one to the other with a minimum of waste motion as they progress toward maturity.

In like manner, the feeding facilities are laid out and constructed so that distribution of the food and clean-up chores may be done on a straight line operation.

Here again the reader is referred to the pictorial presentation of efficient establishments studies in southern California.

The Sow is the Breeding Unit

The first objective of the feeder is to obtain good, healthy feeder pigs with which to convert garbage into pork.

This may be done by the purchase of feeder pigs, but most commercial men have found it unsatisfactory to depend on the uncertain market for feeder pigs. Then too, there is a danger of the introduction of swine diseases and the difficulty of getting the pigs adjusted from grain to garbage feed.

So while the maintenance of a breeding herd increases the number of unproductive hogs that must be fed, it is still probably the best way to procure the largest number of salable pigs at the lowest cost. Table 2 on page 8 shows the distribution of animals by age and class as they would probably average out during the year.

The first 4 classes make up the breeding herd. A fairly well-managed herd should not have over 30 per cent of the total swine units in the breeding herd. As this percentage goes down, efficiency

TABLE 2. Distribution of Animals on Typical 100-Sow Unit.

Class	Number	Swine unit*	Total swine units	Per cent of total
Sows	100	1.0	100.0	22.92
Boars	5	1.0	5.0	1.15
Gilts	10	1.0	10.0	2.28
Pigs—unweaned	173	.1	17.3	3.97
Subtotal—breeding herd	288	.....	132.3	30.32
Feeders—under 100#	260	.4	104.0	23.84
Feeders—over 100#	250	.8	200.0	45.84
Total	798		436.3	100.00

* Calculated feed requirements, based on unit of 1.0 for a mature hog.
Source: Los Angeles County Enterprise Studies—1946-48 calculated.

goes up and costs per pound of finished pork go down.

Inefficiency is usually due to:

1. Keeping more boars than is necessary.
2. Keeping sows that do not produce regularly because they are shy breeders, lose their pigs through abortion or diseases, or produce weak, unhealthy pigs.

There Are Two Farrowing Systems

As pointed out, one of the all-important factors in reducing costs is to keep only sows that farrow and raise to a weaning age, regularly, large litters of healthy pigs. Either of two farrowing systems may be used; the one-litter system or the two-litter system.*

The One-Litter System. In the one-litter system only the gilts (young, immature, unbred sows) are bred. The sow then goes into the fattening pens with her litter and is marketed as a fat hog.

The advantages of this system are that there is very little if any dockage (reduction in price due to unmarketable qualities) on the sow when sold, and that the length of time of keeping a sow for each litter is shortened. This reduces the cost of maintaining the breeding herd.

The Two-Litter System is more commonly used. In this system the sows in the breeding herd are expected to farrow two litters of pigs each year. Therefore only those sows that are proven to be good breeders and good mothers are kept in the breeding herd.

In order to get two litters per year the herdsman must make sure that each sow is bred during the first or second heat period after the pigs are weaned. It is easy to see the importance of this in reducing costs; a sow that is neither being fed for slaughter nor producing more pigs is "dead weight."

Obviously, sows farrowing twice a year will produce twice as many pigs as sows farrowing once a year—other factors remaining constant. In other words, 100 sows bred twice a year can be made to produce as many pigs as 200 sows bred once a year. Thus having two litters per sow, per year, will enable the operator to cut down the size of the breeding herd—greatly reducing the cost per pig at weaning time.

* For more detailed information on the breeding and raising of pigs, control of diseases, etc., the reader may refer to Extension Circular 15, Pork Production in California, E. H. Hughes and Hubert Heitman, Jr., Revised 1949.

But What Counts is the Number of Pigs Raised

The payoff, of course, is the total number of pigs raised to maturity or sent to market. The returns from these must pay the bills for those that are lost, maintain the breeding herd, and provide a living for the owner. This is important when we examine figures that show the average number of pigs saved from the average number that are farrowed on typical feeding establishments.

A study of the figures compiled from 7 records in the swine enterprise study in southern California, covering over 3,000 brood sows and over 5,600 litters showed that the sows averaged 1.8 farrowings per year, with an average of 7.5 pigs per litter. But of the average of 7.5 pigs farrowed in each litter, an average of 3.5 died and only 4 lived to a marketable age. *Of the average of 13.5 pigs farrowed by each sow during a year (under the two-litter system) only 7.3 pigs ever lived to reach a marketable age.*

The average loss therefore was over 45 per cent—nearly half.

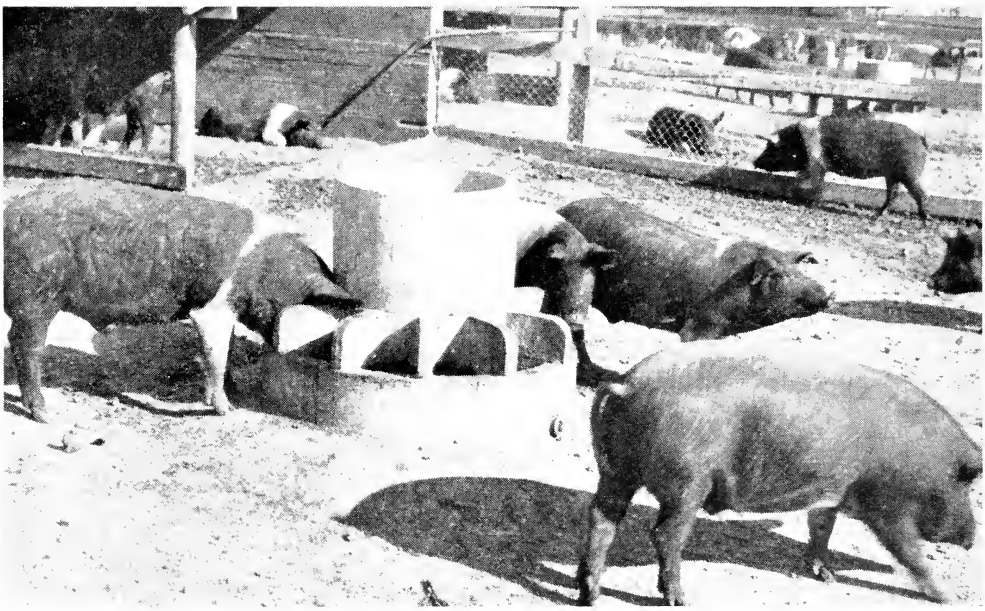
And this is under reasonably good management practices.

Losses Affect the Profits

Based on calculations shown in table 5 (page 17) it is estimated that the total costs per sow year amount to $269.22. The cost of the breeding herd is about 30 per cent of the total. And 30 per cent of $269.22 is $80.77—the cost per sow year for one brood sow.

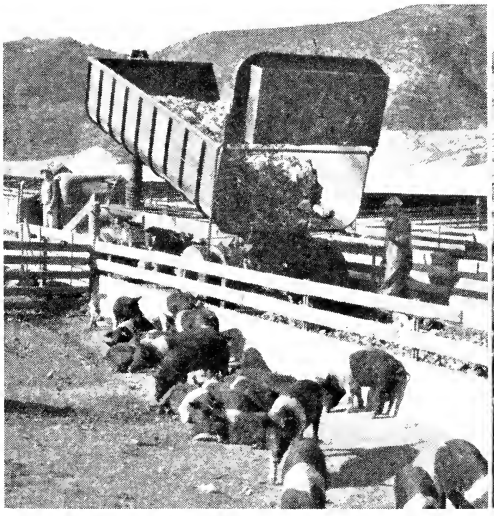
With an average production of 7.3 pigs per year for each brood sow, the cost per pig at weaning age would be about $11 per head. If 10 pigs, instead of 7.3 had been raised, the cost per pig at weaning age would have been about $8 per head.

It is evident that the cost per pig at weaning age decreases rapidly when the number of pigs saved per litter is raised.

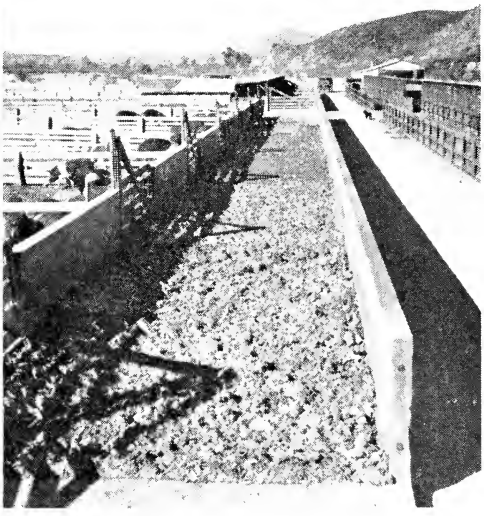


This is a typical water fountain device used on a garbage feeding establishment. Water is kept available for all animals, at all times. Note the shade shed in the background, designed to cover parts of 2 pens. See pictorial section in center foldout.

1. Here is a well laid out garbage feeding establishment where "straight line operation" is the rule. Closer views of some of the construction and operational details are shown below.



2. The garbage is hauled from its source in dump trucks and unloaded onto feeding floors in a continuous operation.



3. Here the garbage is spread out on the feeding floors, ready to be worked over by the hogs. The gates will act as fences.

PRODUCTION LINE LAYOUT CUTS WAS

6. Waste material is hauled to another dump truck for final disposal. Much of this waste material can be used for fertilizer by orchardists in some parts of the state.

Here are 6 steps of garbage feeding, carried out in a "straight line" operation on a well laid out establishment. Planning such as this helps to keep down costs and produce pork at favorable prices. See chart on foldout sheet in center.

4. The gates are opened, closing off sections of the feeding floors and allowing the hogs ready access to the garbage in their areas.

5. When the hogs have cleaned out the edible material, a tractor "loader" picks up the remaining material and moves it away.

TE MOTION • • • HOLDS DOWN COSTS

So Keep Losses Down to a Minimum

By Good Breeding Management. Assuming that a feeder has a contract that will yield 3,500 tons of garbage per year, and that this yield is distributed evenly throughout the year, his next problem is to have an even supply of feeder pigs throughout the period.

A 100-sow breeding herd that would average 1.8 litters per year would produce 180 litters per year—3.5 farrowings per week, or 15 to 18 per month. For this average, a minimum of 5 boars should be kept.

Individual breeding pens should be kept so that the sow can be turned in with the boar as soon as she comes into the first heat after the pigs are weaned. The bred sow should then be turned into the dry sow pens, the first of which is called a "catch" pen, in which a boar is kept.

The sows should be kept in this "catch" pen for 3 or 4 weeks, so that in case they did not get with pig in the breeding pen, the "skip" boar will settle them on the second heat period.

From the time they show signs of being with pig, the sows should have their garbage feed supplemented with a pound of grain per head, per day, and alfalfa hay provided in a rack. (See below.)

A day or two before farrowing, the sows should be moved into an individual, clean, disinfected, farrowing pen. The sow and her pigs are then kept in this pen for 8 or 9 weeks.

At the end of this time the pigs should be vaccinated for cholera (the male pigs having been castrated), and all put into feeding pens with others of the same age and weight. Usually 75 to 100 of the light feeders are kept in the same pen; as they increase in weight they are sorted. The cripples and weak ones are put into a hospital pen and given special treatment. The number per pen is reduced as the pigs get larger so that when finished, at about 225 pounds, there are about 40 or 50 to a pen.

Feeder hogs are usually fed nothing but garbage, unless there is some special reason for other feed.

By Supplemental Feeds. In the search for some way to reduce the very heavy death losses in young pigs, feeding experiments were conducted in Los Angeles County. It was thought that the sow, during the time of gestation and nursing of the pigs, was not getting enough energy from garbage alone to produce strong, healthy pigs.

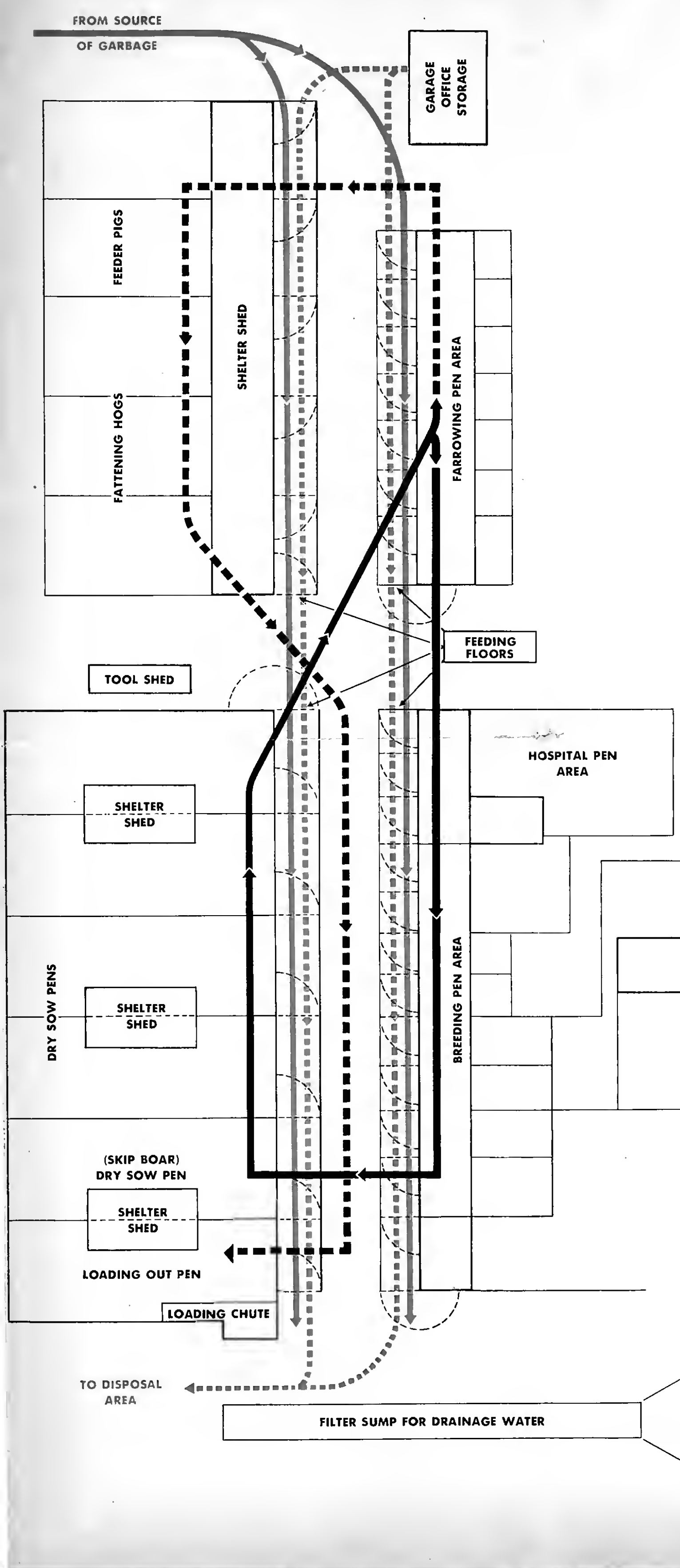
The sows experimented with were fed 1 pound of supplemental (grain) feed per day, for a period of 100 days, overlapping the gestation and nursing periods. The results showed that the sows fed the supplementary diet of grain raised one more pig per litter to weaning age (about a 25 per cent increase) than sows kept on a straight garbage diet. The pigs from sows fed supplementary feed were more vigorous and averaged from 1 to 2 pounds heavier at weaning age.

The additional cost of the supplemental feed was more than offset by:

1. A reduction in the amount of garbage fed.
2. An increase of 25 per cent in the number of pigs raised to weaning age.

The results of the experiment also indicate that by supplemental feeding 75 sows could be made to produce as many pigs as 100 sows would produce on a straight garbage diet. Or putting it another way, 100 sows would produce 25 per cent more pigs, considerably reducing the cost per pig at weaning age.

Here is a Well Laid Out Garbage Feeding Station



LEGEND

The solid line in color shows the route of the garbage trucks bringing feed from the collecting point and distributing it along the feeding floors.

The broken line in color shows the route of the cleanup loaders as they pick up refuse and take it to the final disposal area.

The solid black line shows the circular route made by brood sows—from breeding pen, to skip boar, to dry sow pens, to farrowing pens, back to breeding pens and around again.

The broken black line shows the route of the feeder pigs from the time of weaning until fattened and reody for shipment to market.

NOTE: In the one-litter system of farrowing, the brood sows ore fattened ond sold along with their litter, so the circular route shown here is broken.

Watch the Labor Input

The management study showed a large variation in the number of man hours per sow year needed to operate efficiently. The 7 records kept ranged from a high of 73.7 man hours per sow year, to a low of 38.6, with the average being 54.5.

One of the most important factors in reducing the number of man hours per sow is to keep in the herd the maximum number of sows that a man, employed full time, can take care of adequately. If a full-time employee cares for 75 sows when he could care for 100 in the same time, the labor cost per hundredweight of pork would be considerably reduced by having the larger number of sows.

Another important factor is the layout of the feeding yard (see pictorial presentation). The general plan of driveways, feeding floors, farrowing and feeding pens, water system, movable panels and gates are all important details in saving time and labor.

Keep Adequate Records

The hog feeder should be asking himself two questions constantly: how much profit is this enterprise making? and how can the profit be increased? The second question can not be answered until the answer to the first is known. Neither question can be answered unless records are kept that furnish adequate information.

This means keeping more records than those of cash receipts and expenditures—they tell only part of the story. Records of the physical input of feeds, materials, capital, man hours of labor—records of output and facts affecting it are also essential. Individual sow production records should be kept so that poor producers may be eliminated.

Closeup of the feeding floors with pigs feeding. Note graduation in sizes of the feeders, from small (in the near pen) to finished pigs in the background.

An annual balancing of input with output, and comparison with previous years, will point out the strong and weak points in management practices.

For a suggested form to use in making a monthly hog inventory, and keeping an account of farrowings, death losses and changes in hog numbers during the month, see page 18.

This inventory form, if properly filled out, will give the operator an accurate figure for the number of animals he should have in each class at the end of any given period. If this number does not check with a physical count made at that time, something is wrong. If the physical count shows more animals than should be there, the error is probably in the count, or in bad record keeping during the period. If there are fewer animals than there should be, the error may be one of record keeping, or a result of dishonesty—perhaps pilferage.

In any event, the written record gives the operator a basis on which to make inquiry and seek out the trouble.

Some Figures to Go By

Feed Inputs. Table 3 shows the amount of feed used per brood sow year, as reported in the management study in the 7 Los Angeles County enterprises.

All but one reported feeding alfalfa hay as part of the diet. All reported some grain or concentrated feed.

Based on calculations made during the study, a ton of garbage with a small amount of grain supplement, for sows and unweaned pigs, will produce about 50 pounds of pork. This includes feed that was given to pigs that died, and to sterile breeding stock.

This emphasizes again the importance of large litters, with as few losses from death as possible, to reduce the cost per pound of finished pork.

Analysis of Garbage. Table 4 presents the average analyses of a large number of samples of garbage, many made by the California Experiment Station. Since the feeding quality of garbage varies from place to place, and from year to year, it is difficult to get a true sample of garbage. Even so, some of the points illustrated in table 4 are noteworthy.

The analysis of dried refuse, or cleanup, from the feeding floors does not vary greatly from dried garbage. This material, except for the bones, is usually spread out on adjacent concrete floors to dry, then used as fertilizer.

At the bottom of the table are digestible nutrients found in dried garbage. This garbage was from the city of Los Angeles and was estimated to be 20 per cent from hotels and 80 per cent from residential areas. The material was brought to the University of California where it was analyzed and used for a digestion trial on a pig.

A word of caution is in order on the

Closeup of a hinge used on gates that must swing out over a foot or more of garbage. Note hinge is adjustable to let gate up or down, as needed for clearance.

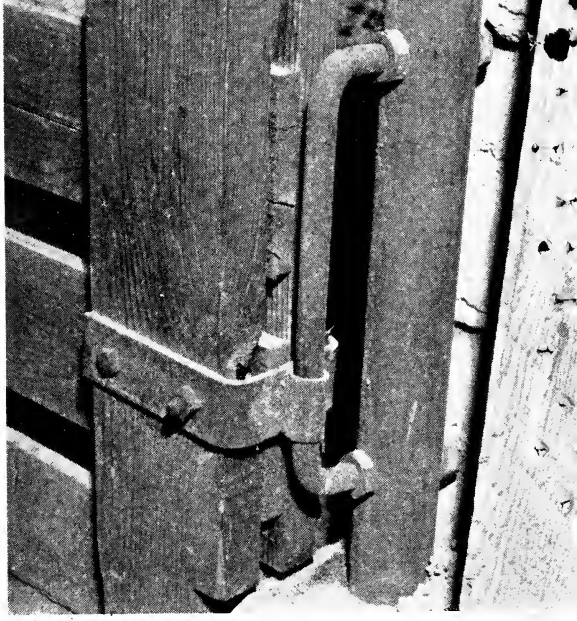


TABLE 3. Feed Inputs.

Record number	Garbage (tons)	Grains (lbs.)	Alfalfa (lbs.)
1	22.00	1010	307
2	25.93	1209	101
3	29.00	1156	149
4	36.00	226	146
5	35.00	90	....
6	22.20	386	146
7	28.63	1393	380
Average	28.4	781	176

use of this table: it indicates that the total digestible nutrients in dried garbage are similar to those in barley. Previous experiments conducted by the Experiment Station indicate that the value of dried garbage as hog feed is far below that of barley. Apparently during the drying process some of the nutrients were injured, and were not indicated in the digestion experiment.

Analysis of Costs. Table 5 may be used as a rough guide in measuring efficiency in operations, or by persons who may be considering going into the garbage feeding business. It combines table 1 (showing production), table 2 (showing investments), and some additional figures that give a fairly complete picture of where the expense money goes in a typical 100-sow feeding unit.

The figures above the line show the expected output of the herd. The figures below the double line show the average costs during 1948, in southern California, for getting into business and maintaining a herd for a year.

Some of the expenses in table 5 are estimated as follows: cost of garbage is

Left: The cleanup vehicle has a spray rig attached on the rear, for use in disinfecting farrowing pens. Cleanup tools are kept together and in a handy place. Right: Discharge end of the filter ditch that takes the run-off water from the feeding floors. The water is filtered through gravel, comes out clear and free from odor, and drains into a nearby stream.

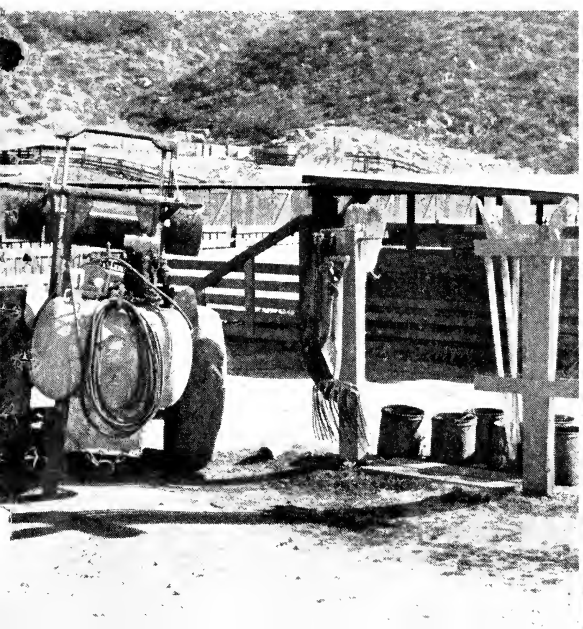


TABLE 4. Analysis of Garbage As a Feed.

Kind	Dry matter	Crude protein	Fat	Fiber	NFE	Ash
Fresh Garbage						
Municipal*	31.50	4.98	4.82	2.15	16.06	3.50
Hotel, restaurant, hospital, etc.	23.81	4.26	5.95	0.68	13.97	1.45
Military	30.13	6.47	8.99	0.61	12.41	1.65
Dried Garbage						
Municipal	89.4	16.90	19.70	11.54	38.23	10.88
Dried Refuse†						
Municipal	91.72	17.17	18.49	16.60	34.89	12.79
Digestible nutrients in dried garbage						
Municipal	53.66	8.64	17.10	5.68	24.24	....

* A mixture of hotel, restaurant, hospital and residential garbage.
† Taken from feeding floors, including refused garbage, feces, urine, some metal; bones removed before sampling.

figured at $2 per ton, and hauling at $1.50—total $3.50 delivered at the feeding plant; all labor is charged at the rate of $1 per hour; the annual interest charge is based on 5 per cent of one-half of the original cost of the improvements, and the full cost of the land, feed supplies and hogs. Depreciation charge is made on the improvements and facilities based on the length of their useful lives.

The profit formula is:

Yield (pounds of pork produced) × Price per pound – Costs = Profit (or Loss)

Actually, the net profit will depend on both controllable and uncontrollable factors. The price paid for hogs, the cost of feeds and materials and the wage scale for hired help are probably not controllable by the operator. They are changing constantly and many risks are involved.

However, yield may be controlled to a certain extent, and costs can be kept at a minimum by good management practices, as explained in the foregoing pages. All other things being equal, good management practices will result in more profit and avoid the danger of losses.

TABLE 5—on page 17 combines the estimated investment figures and estimated costs for one year and may be used to arrive at an estimated figure for the cost of pork per hundredweight on a hypothetical 100-sow garbage feeding establishment. As stated, these figures are estimates and are based on prices as they prevailed in one part of the state, during one year. They also assume that good management practices, as outlined in this circular, have been observed.

Production estimates for 100 brood sows	Avg. during year	Added during year	Transfrd. to next group	Death losses	No. available for sale	Lbs. available for sale
Boars	5	2	....	.2	1.8	720
Sows (1.8 litters)	100	40	....	5.0	35.0	12,250
Pigs—unweaned (7.0 per litter)	173	1,260	819	441.0	....	.....
Feeders—weaning age to 100#	260	819	778	41.0	....	.....
Feeders—100# to 225#	250	738	....	39.0	699.0	157,275
Gilts 6-12 mo. (replacements)	10	40	40	....	....	.....
Total	798	2,899	1,637	526.2	735.8	170,245
Net production, less 2 boars bought—500 pounds						169,745

Quantities and costs	Pounds required		Costs per ton or cwt.	Costs per sow year	Costs per cwt.
	Per sow year	Per cwt.			
Garbage (3,500 tons per year)	70,000	4,124	$3.50	$122.50	$ 7.21
Grain (27,000# per year)	270	16	3.00	8.10	.48
Pasture					
Other					
Total feed				$130.60	$ 7.69
Total labor (6,000 hours)	60	3.54	$1.00	60.00	3.54
Sub-total labor and feed				$190.60	$11.23
Other cash costs					
General expense (5% labor and feed)				9.53	.56
Taxes and insurance					
Veterinary and sanitation				25.00	1.47
Miscellaneous					
Total cash costs				$ 34.53	$ 2.03
Subtotal cash operating costs				$225.13	$13.26

Investment	New costs	Av. Invest.	5% Intrst.	Deprec.		
		Dollars per sow				
Land (2 acres)	$ 1,000	$ 10.00	$ .50			
Buildings and fences	16,000	80.00†	4.00	$16.00		
Equipment	4,000	20.00†	1.00	4.00		
Feed and supplies	400	4.00	.20			
Well and water system	10,000	50.00†	2.50	5.00		
Stock—average all ages	21,770	217.70	10.89			
Total invest. and annual cost	53,170	381.70	19.09	25.00		
Total depreciation costs					25.00	1.47
Subtotal					250.13	14.73
Total interest on investment					19.09	1.13
Total all costs					$269.22	$15.86

† Average investment is one-half of original cost.

BLANK FEEDING COMPANY

Monthly Hog Inventory

Date.....

Ranch No...... **Period beginning**.....**and ending**.....

Kind of hogs	Beginning inventory	Bought	Sold	Died	Transferred	Ending inventory
1. Brood sows						
2. Gilts—over 6 mos.						
3. Young gilts						
4. Breeding boars						
5. Young boars						
6. Pigs—unweaned						
7. Feeders—under 100#						
8. Feeders—over 100#						
9. Cull sows, etc.						
Total						

No. sows farrowed..... No. pigs.....

How to count:
1. All sows that have had pigs.
2. Gilts of breeding age that have not had pigs.
3. Young gilts that have been selected for breeding herd, or for sale as breeding stock.
4. Boars that are in service.
5. Young boars that are to be used in herd, or are for sale.
6. Pigs that are with sow.
7. All pigs weaned, up to 100 pounds.
8. All hogs over 100 pounds.
9. All hogs culled from breeding herd, sows, boars, stags.

The figures for beginning inventory may be taken from a physical count of the animals, or from the "Ending Inventory" column of the preceding report period. Enter figures for number bought during the period, in various classes. Do the same for the number sold and the number that died. In the "Transferred" column, enter a minus (–) figure for the number taken out of any class, and a plus (+) figure for those transferred into the class. Total the lines across and write figures in "ending Inventory" column. These figures should check with a physical count made at the end of the period.

Coöperative Extension work in Agriculture and Home Economics, College of Agriculture,
University of California, and United States Department of Agriculture coöperating.
Distributed in furtherance of the Acts of Congress of May 8, and June 30, 1914.
J. Earl Coke, Director, California Agricultural Extension Service.

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49 WAYS TO SOLVE A PROBLEM
... FARM ADVISORS

located in 49 California counties and in these towns:

Alturas
Auburn
Bakersfield
Colusa
Cowell
Eureka
El Centro
Fairfield
Fresno
Grass Valley
Half Moon Bay
Hanford
Hayward
Hollister
Kelseyville
Los Angeles
Madera
Marysville
Merced
Modesto
Napa
Orland
Oroville
Placerville
Quincy
Red Bluff
Redding
Riverside
Sacramento
Salinas
San Bernardino
San Diego
San Jose
San Luis Obispo
San Rafael
Santa Ana
Santa Barbara
Santa Cruz
Santa Rosa
Sonora
Stockton
Susanville
Ukiah
Ventura
Visalia
Weaverville
Woodland
Yreka
Yuba City

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