Performance Guidelines for the Swine Operation – Pork Industry Handbook
Michigan State University Cooperative Extension Service
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pork industry handbook

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Performance Guidelines for the Swine Operation

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The success of a swine enterprise is measured in terms of profits. Profits are determined by how well an operation is managed from both financial and production management aspects. Tax and other financial records are a source of information which you can employ to determine profitability. The purpose of this fact sheet is to provide production guidelines or standards (Table 1) with which to compare the animal performance results you are getting on your farm. This comparison will provide a production profile and will enable you to identify where production management can be improved. The production profile can be used to:

- Provide an early warning of developing problems
- Provide clues to basic weaknesses in your program
- Monitor herd health
- Provide information for budgeting or feasibility studies
- Provide a basis for incentive payments to labor
- Identify major costs
- Permit a comparison with other producers
- Provide a basis for seasonal adjustments in management
- Evaluate the compatibility of different production and marketing arrangements with your farm.

Records

Records must be available to establish the production profile. Select those items in Table 1 that you think are important production criteria, ones for which you are willing to spend the time and effort necessary to collect the data. Collecting and not using data is a waste of your time. Discipline yourself to be selective and honest with your record keeping, data evaluation, and management decisions. Visit with a swine specialist about where to obtain computer programs and services for organizing and summarizing records.

Determining Your Swine Production Profile*

Table 1 lists measures of performance for establishing a production profile. Presented for each measure are: (1) three levels of performance, excellent, good, and poor, (2) attainable goals, and (3) a space to record the results being achieved on your farm. The following text provides a brief discussion of each performance standard, what it measures, and how it is calculated.

Some items listed in Table 1 are measures of overall performance, such as hogs raised per female per year, and are broad indicators of management. Such comprehensive measures have the weakness of failing to pinpoint a problem if it is the only record kept. You may decide that records on more specific measures, such as live pigs farrowed per litter, are also required in your operation for production management decision making. Your swine performance profile should be continued over the years to allow a study of trends and emerging problems.

1, 2. (See Table 1.) Weaned sows cycling within 7 days and weaning to first service interval. For pork producers using intensive farrowing schedules, it is important that sows cycle and are bred within a week after weaning in order to stay on schedule and ensure a full-farrowing unit. Failure of sows to cycle in this time period can be an indication of a management

* Some definitions and formulas were adapted from "Generally Accepted Terms and Formulas for the Pork Industry," available from National Pork Producers Council, P.O. Box 10383, Des Moines, Iowa 50306.

problem. It is normal to expect a slightly lower percentage of first litter sows to cycle within 7 days after weaning compared to older sows.

$$\text{Percent weaned sows cycling within 7 days} = \frac{\text{No. of weaned sows that cycle (within 7 days) within a group}}{\text{Total no. of sows weaned for this contemporary group}} \times 100$$

Weaning to first service in days is another measure of reproductive performance. Consider culling sows that do not cycle in time to fit into the breeding schedule.

$$\text{Avg. days weaning to 1st service} = \frac{\text{Total days from weaning to first service for all sows in this contemporary group}}{\text{Total no. of sows in this contemporary group}}$$

3. Gilts cycling by 7 months. Selection for early sexual maturity will result in genetic improvement for this trait. Gilts that express first estrus at a young age can be bred earlier as long as one or more estrous periods have been expressed before breeding. This reduces feed and other overhead costs associated with gilt maintenance without detracting from reproductive performance. See PIH-74, *Management of Developing Gilts and Boars for Efficient Reproduction.*

$$\text{Percent gilts cycling by 7 months of age} = \frac{\text{No. of gilts cycling by 7 months of age}}{\text{Total no. of gilts within this contemporary group}} \times 100$$

4. Sow replacement rate per year. Replacement gilts are needed in sufficient numbers to replace sows as they are culled. Gilts replacing sows represent the major opportunities for genetic change in the sow herd. However, sows generally produce larger litters of heavier pigs. Thus, the high level of production of sows must be balanced against the genetic change made possible by bringing gilts into production. Start-up herds and very mature herds should expect different values. Another observation that may be of value is voluntary versus involuntary cull rates. Voluntary culls are those sows removed because they do not perform to minimum reproductive standards. Involuntary culls are those animals removed for reasons other than reproductive performance such as broken legs, prolapse and chronic weight loss. The sow replacement rate per year provides the information on this measure. See PIH-27, *Guidelines for Choosing Replacement Females.*

$$\text{Sow replacement rate per year, \%} = \frac{\text{No. of replacement gilts added to the herd per year}}{\text{Average mated sow inventory}} \times 100$$

5. Pregnancy rate. Pregnancy rate provides an early warning of a reproduction problem provided you make an effort to detect open or recycling females. A female that fails to conceive means no pigs at farrowing from her and fewer from the herd as a whole. Yet it costs as much to feed and maintain an "open" sow as it does a pregnant one, and feeding open sows increases the costs per market hog sold. Knowing the pregnancy rate per sow group or period also allows you to prepare for gluts or shortages of pigs.

Pregnancy rate is defined as the percent of females within a group that check positive for pregnancy within 40 days post mating. It is calculated as follows:

$$\text{Pregnancy rate, \%} = \frac{\text{No. females checked positive for pregnancy within 40 days post–mating}}{\text{No. mated females within this contemporary group}} \times 100$$

6. Farrowing rate. Farrowing rate reflects any failures or successes of mating, conception, and gestation. To ensure a full farrowing house it is important to know herd (sows and gilts separately) and seasonal history in regard to this measure. Farrowing rate is the percent of mated females that farrow within a contemporary group.

$$\text{Farrowing rate, \%} = \frac{\text{No. of mated females that farrow within a contemporary group}}{\text{Total no. of mated females for this contemporary group}} \times 100$$

7. Average number of live pigs born per litter. This is the total number of live pigs farrowed by a group of sows divided by the number of litters farrowed. Separate calculations for sow and gilt litters are maintained because it is important, for troubleshooting and for planning, to know how gilts compare with sows in your herd.

$$\text{Avg. no. live pigs born/litter} = \frac{\text{Live pigs born}}{\text{No. of litters farrowed}}$$

8, 9. Number born dead per litter and mummified fetuses. Any pig that has not moved from the back end of the sow is counted as born dead or stillborn. Mummified pigs are those which have died sometime during gestation and have to some degree been resorbed. They are born discolored, shriveled, and somewhat decomposed. Mummies are an important measure because they can result from infectious or noninfectious causes.

$$\text{Avg. no. born dead/litter} = \frac{\text{Total pigs born dead}}{\text{No. of litters farrowed}}$$

$$\text{Avg. no. mummified fetuses/litter} = \frac{\text{Total no. of mummies}}{\text{Total no. of litters farrowed}}$$

10. Average pig birth weight. Divide total weight of all live pigs at birth by the number of pigs that were weighed. The heavier the pigs at birth, the greater is their chance for survival.

$$\text{Avg. pig birth wt.} = \frac{\text{Total wt. of all live pigs at birth}}{\text{Total no. of live pigs weighed}}$$

11. Pigs weaned per litter farrowed. This is calculated by taking the total number of pigs weaned from a group of sows or over a time period divided by the number of litters farrowed to produce those pigs.

$$\text{Pigs weaned/litter farrowed} = \frac{\text{Total no. of pigs weaned}}{\text{No. of litters farrowed}}$$

12. Weaning percentage. This is the percentage of pigs alive at birth that are weaned. It reflects the death loss between farrowing and weaning and would indicate any management or health problems during this period. Weaning percentage is calculated as follows:

$$\text{Weaning percentage} = \frac{\text{No. of pigs weaned}}{\text{No. of live pigs born}} \times 100$$

13. Average weaning weight. This is the total weight of weaned pigs divided by the number of pigs. A three-week weight can be an evaluation of sow milk production because baby pig feed consumption is minimal up to 3 weeks of age. To provide useful information for culling and selection it is necessary to adjust weaning weights to a standard age by using appropriate adjustment factors.†

$$\text{Average weaning wt.} = \frac{\text{Total weight of weaned pigs}}{\text{No. of pigs weaned}}$$

† *Guidelines for Uniform Swine Improvement Programs*, 1987. National Swine Improvement Federation, National Pork Producers Council, Box 10383, Des Moines, Iowa 50306

14, 15. Average daily gain and age at 230 lb. Rate of gain and days to market measure the same thing–the speed at which animals proceed through the system. Average daily gain is the amount of weight gained per day per pig during a defined time period. A rapid rate of gain could result in a reduction of building, labor, and other overhead costs if more pigs per year can be moved through the facilities. Rapid gains may also mean a substantial savings in feed because fast-gaining lean pigs are usually good converters. To calculate age at 230 lb., the birth date is essential. Average daily gain is calculated as follows:

$$\text{Avg. daily gain} = \frac{\text{Total ending wt.} - (\text{Total starting wt.} - \text{Total starting wt. of pigs that died})}{\text{No. of pigs at the end} \times \text{total no. days}}$$

The following formula predicts the age of the animal when it reached or will reach 230 lb.

$$\text{Days to 230 lb.} = \text{actual age in days} + \left[\frac{(230 - \text{actual wt.}) \times (\text{actual age} - 38)}{\text{actual wt.}}\right]$$

16, 17. Lean gain per day and lean feed conversion. To meet current and future consumer demand for lean meat, the goal should be to improve the efficiency of lean pork production. Two measures of this performance are lean growth rate and lean tissue feed conversion. Lean growth rate is defined as the amount of carcass lean that an animal gains per day. See PIH-42 *Carcass Evaluation* for the formulas for estimating pounds of lean in the carcass.

$$\text{Pounds of lean gain per day} = \frac{\text{Estimated pounds of lean in the carcass}}{\text{Pigs age in days}}$$

Lean feed conversion or lean tissue feed conversion is the ratio of pounds of feed consumed divided by the pounds of carcass lean gain.

$$\text{Lb. feed/lb. carcass lean gain} = \frac{\text{Total lb. of feed fed}}{\text{Pounds of carcass lean}}$$

18. Whole herd feed conversion. Feed efficiency for the herd is the amount of feed required to produce a pound of pork. It is an important performance measure because feed makes up such a large part of the cost of producing hogs. Feed expenses account for at least 60% of the total cost and more than 75% of the variable costs in a farrow-to-finish operation.

$$\text{Lb. feed/lb. gain} = \frac{\text{Total lb. of feed fed per year (or per other time period)}}{\text{Total lb. of pork produced per year (or per other time period)}}$$

$$\text{Total pounds of feed fed} = \text{beginning inventory} + \text{feed purchases} + \text{home produced feed} - \text{ending inventory}$$

$$\text{Total pounds of pork produced} = (\text{ending inventory} + \text{sales}) - (\text{beginning inventory} + \text{purchases})$$

19, 20, 21, 22. Loin muscle area, fat depth, average backfat, and percent lean. A progressive pork producer is aware of what the consumer currently wants–lean pork. The operation is geared to raising meat-type market animals. Lean animals are more efficient in converting feed to weight gain than are fat ones. Choosing a meaty, lean herd sire will probably do more to improve carcass leanness than will altering various environmental aspects.

Loin muscle area or loin eye area (longissimus muscle area) is an indicator of muscling or leanness. At slaughter the loin muscle cross-sectional area is measured between the 10th and 11th rib with a compensating polar planimeter, or by the more common method of using a plastic grid.

Fat measurements are excellent indicators of leanness. The lower the fat measurements, the higher the lean in the animal or carcass. One measurement is fat depth (including skin) measured over the loin at the 10th rib. A second method is to measure fat thickness at the last rib. A third measure is average carcass backfat taken along the midline at the first rib, last rib, and last lumbar vertebra. To adjust backfat to a standard weight of 230 lb., use the following formula:

$$\text{Backfat at 230 lb.} = \text{actual backfat} + \left[\frac{(230 - \text{actual wt.}) \times (\text{actual backfat})}{(\text{actual wt.} - 25)}\right]$$

Percent lean gives a measure of quantity of muscle in a carcass. If you are marketing under, or considering a switch to, a system which rewards for lean, then the percent lean becomes a very important decision variable. The booklet *Procedures to Evaluate Market Hog Performance* provides information and formulas for carcass and performance measures. This is available from the National Pork Producers Council, P.O. Box 10383, Des Moines, IA 50306. Refer also to Pork Industry Handbook fact sheet PIH-42, *Carcass Evaluation*.

23. Hogs discounted at market. This measure includes those market hogs that are sorted out and discounted by the buyer. "Tail-end" hogs not sold through the normal marketing channels should be included as discounts. A record of the causes for the "tail-enders" can aid in production management decisions.

$$\text{Percent hogs discounted} = \frac{\text{No. of hogs discounted}}{\text{Total no. of hogs marketed}} \times 100$$

24. Mortality, birth to weaning. This is mortality expressed as a percentage of total live pigs born. Any pig that moved away from the back of the sow should be counted as having been born alive. This measure provides information on management and herd health during this period. Some producers will want to identify and keep a record of the cause of deaths.

$$\text{Percent mortality} = \frac{\text{No. died (birth to weaning)}}{\text{No. of live pigs born}} \times 100$$

25, 26. Mortality in nursery and mortality in growing-finishing stage. This is pig mortality expressed as a percentage of the animals entering the nursery and/or growing-finishing building or these stages of the life cycle. It should be calculated after the animals in question have passed through the stage. An identification of cause of death would be useful information.

$$\text{Percent mortality} = \frac{\text{No. died in nursery and/or growing–finishing stage}}{\text{Total no. entering for this group}} \times 100$$

27. Mortality in the breeding herd. This is calculated as the number of sows that die annually as a percentage of the average sow herd size. Average number of sows in the herd should be based on the average monthly counts from a monthly inventory. Records on the causes of death as well as reasons for sows leaving the herd would provide additional useful information.

$$\text{Percent sow mortality} = \frac{\text{No. of sows that die per year}}{\text{Average sow herd size}} \times 100$$

Gilts are included in the sow herd count as soon as they are selected for breeding and their unselected contemporaries are

sent to slaughter. Gilts must be counted as part of the breeding herd if they are 7 months old. Cull sows are excluded from the count at culling time.

28, 29. Litters per female per year (or per time period) and pigs weaned per female per year (or per time period). To calculate this measure, divide total number of farrowings per year (or per time period) by average sow herd size. These measures do not pinpoint management problems but do give an annual evaluation of production and performance that is useful in high intensity production units. Those pork producers using less intensive production methods should revise downward the standards in Table 1 for this measure.

$$\text{Litters/female/year (or per other time period)} = \frac{\text{Total no. of farrowings per year (or per other time period)}}{\text{Average sow herd size}}$$

$$\text{Pigs weaned/female/year} = \frac{\text{Total pigs weaned}}{\text{Average sow herd size}}$$

30. Hogs sold (raised)/female/year. This measure is an indicator of performance from conception to market. It is affected by fertilization, by the implantation rate and survival of embryos during gestation, and by livability and performance from birth to market. It is calculated by dividing number of hogs produced by average sow herd size.

In calculating hogs raised per year, use an equivalent weight (e.g., no. of 230 lb. hog equivalents raised), and take into account inventory changes, home consumption, sales, and purchases.

$$\text{Hogs sold (raised)/female/year} = \frac{\text{No. of hogs sold (raised)}}{\text{Average sow herd size}}$$

31, 32. Litters farrowed per crate per year and pigs weaned per crate per year or per time period. The performance level standards in Table 1 are for high intensity systems and may not be appropriate for lower intensity swine units. It is possible to establish a goal that is too high for this measure and actually reduce performance and increase production costs by farrowing too many litters per crate.

Litters farrowed/crate/year is the total number of farrowings per year divided by the average number of farrowing crates. Use this measure along with pigs weaned per litter farrowed, weaning percentage, and average weaning weight for a more precise evaluation of production management.

$$\text{Litters farrowed/crate/year (or per time period)} = \frac{\text{Total no. of farrowings per year (or per other time period)}}{\text{Average no. of farrowings crates}}$$

Pigs weaned per crate per year or per time period is calculated by dividing total pigs weaned by the average number of farrowing crates. This measure reflects the breeding efficiency, pigs weaned per litter, and the number of groups of sows serviced by a farrowing house.

$$\text{Pigs weaned/crate/year (or per time period)} = \frac{\text{Total pigs weaned per year (or per other time period)}}{\text{Average no. of farrowing crates}}$$

33. Square feet of nursery, growing, finishing space/hog produced/year. To make this calculation, take the inside measurement and determine the total square feet in all those facilities used between farrowing stage and marketing. Divide total square feet by the number of market hog (230 lb.) equivalents produced. The performance standards in Table 1 are for slotted floor, fully roofed facilities or high intensity production systems only.

$$\text{Square feet of nursery, growing, finishing space/hog produced/year} = \frac{\text{Total square feet}}{\text{No. of market hogs produced}}$$

34. Labor efficiency. Labor represents the second or third largest cost of hog production. Labor efficiency is expressed in terms of production per person working full time for a year. The term F.T.E. or full-time equivalent is sometimes used. Divide the hours of labor used or required producing hogs by the number of hours that you would expect a full-time person to work in a year. For example, an FTE might be based upon a 40-hour week or 2,000 hours per year.

$$\text{Full-time equivalent} = \frac{\text{No. of hours of labor used}}{2{,}000}$$

Listed below are the formulas for calculating labor efficiency. It is assumed that the measures are calculated once per year.

Farrow to finish producers:

$$\text{Sows/F.T.E.} = \frac{\text{Average sow herd size}}{\text{Full–time equivalents}}$$

$$\text{Hogs produced/F.T.E.} = \frac{\text{No. of market hogs (230 lb. equivalents) produced}}{\text{Full–time equivalents}}$$

Farrow-to-feeder producers:

Feeders produced = No. of weaned pigs in ending inventory + no. sold - no. of weaned pigs in beginning inventory.

THEN

$$\text{Feeders produced/F.T.E.} = \frac{\text{Feeder pigs produced}}{\text{Full–time equivalents}}$$

Finishing:

$$\text{Hundredweight (cwt.) of pork produced} = \frac{\text{(Ending inventory + sales) – (Beginning inventory + purchases) in lb.}}{\text{100 lb.}}$$

THEN

$$\text{Cwt. pork produced/F.T.E.} = \frac{\text{Cwt. pork produced}}{\text{Full–time equivalents}}$$

What Do I Do with These Records?

The answer to this question depends largely on what records of performance you have decided to keep, and the reasons for which you selected them. Where you go depends then on the results of your swine production profile. In addition to the standards in Table 1, compare your swine performance with results from the farm record service sponsored by agricultural colleges or commercial swine record services, and to the history of performance on your farm.

The production profile should reveal where the "weak links" are in your swine operation. Post the records you have collected as a reminder to you and your help as to where improvements need to be made. Set and post your goals for various measures for next week, month, or year. If animal performance is consistently above good or excellent, this indicates that from a management or husbandry standpoint you may be ready to handle a bigger operation. Think seriously about advisability of expansion, or do so only with great caution if your swine performance standards are only good. It would be better to improve performance in your existing program before trying to cope with a larger operation. Don't expand if performance measures are found to be below good.

Alternative approaches exist for marketing your finished hogs. Included in these alternatives is a payment based on the lean yield of carcasses. If your production profile demonstrates that you consistently rank excellent in the lean and fat categories discussed, then you should at least consider adopting such a marketing strategy. The payment basis may differ and you should be sure you understand the ramifications of such a choice. Futhermore, be certain that these measures are truly indicative of the hogs you produce. A good to excellent rating can arise not only from a herd in which all animals exhibit these characteristics but also from a herd in which a sizeable proportion of the hogs rank individually as poor performers. That is, the variability in your hogs is an important consideration. The more variable herd may benefit less from a switch to marketing on a lean basis depending on the relative prices of lean and fat.

In most cases, poor animal performance can be traced to poor management; that is, the absence of, or improper application of, proven management practices. Therefore, to pinpoint the source of a problem, develop a checklist of management practices that affect the performance measures which you found to be below good. For example, let's assume conception rate is low on your farm. The checklist might include items such as:

	Yes	No
Was adequate labor expended to ensure sow exposure to the boar at the correct time in the estrous cycle?	☐	☐
Were boars free of any lameness or stiffness?	☐	☐
Were boars free of external parasites?	☐	☐
Were boars maintained in comfortable quarters?	☐	☐
Were boars free of flu or high body temperatures prior to, and/or during, breeding?	☐	☐
Was "boar power" adequate?	☐	☐
Were sows and gilts in breeding condition (i.e., not too fat or too thin)?	☐	☐
Were rations free of molds?	☐	☐

The number of items in such a checklist can be quite long. Seek out an expert trained and experienced in swine management techniques in developing such a troubleshooting checklist. Also check through the content pages of the Pork Industry Handbook and try some of the management techniques described in the appropriate subject matter fact sheets.

Table 1. Production measures for determining production profile.

Performance measure	Unit	Performance: Excellent	Good	Poor	Attainable Goal	Your farm
1. Weaned sows cycling within 7 days,						
1st litter sows	%	Over 85	70-85	Under 70	90	
Older sows	%	Over 90	85-90	Under 80	95	
2. Weaning to 1st service interval	days	Under 6	6-7	Over 7	5.5	
3. Gilts cycling by 7 months	%	Over 90	75-90	Under 75	95	
4. Sow replacement rate per year	%	40	50	Over 60	40	
5. Pregnancy rate						
gilts	%	Over 80	70-80	Under 70	90	
sows	%	Over 90	80-90	Under 80	95	
6. Farrowing rate						
gilts	%	Over 80	70-85	Under 70	85	
sows	%	Over 90	80-90	Under 80	95	
7. Av. no. live pigs born/litter						
gilts	no.	Over 10.5	9.5-10.5	Under 9.5	11.0	
sows	no.	Over 11.5	10.5-11.5	Under 10.5	12.0	
8. Born dead/litter	no.	Under 0.8	0.8-1.5	Over 1.5	0.5	
9. Mummified fetuses/litter	no.	Under 0.1	0.1	Over 0.1	Under 0.1	
10. Av. birth weight *	lb.	Over 3.5	3.0-3.5	Under 3.0	3.5	
11. Pigs weaned/litter farrowed						
gilts	no.	Over 9.5	7.6-9.5	Under 7.6	10.0	
sows	no.	Over 10.5	8.5-10.5	Under 8.5	11.0	
12. Weaning percentage	%	Over 90	80-90	Under 80	90.0	
13. Av. weaning weight						
3 weeks	lb.	Over 12	9-12	Under 9	14	
4 weeks	lb.	Over 16	11-16	Under 11	18	
5 weeks	lb.	Over 20	14-20	Under 14	24	
6 weeks	lb.	Over 25	20-25	Under 20	32	
14. Av. daily gain						
birth-to-market	lb.	Over 1.25	1.0-1.25	Under 1.0	1.38	
40 lb.-to-market	lb.	Over 1.5	1.3-1.5	Under 1.3	1.7	
15. Age at 230 lb.	days	Under 182	182-227	Over 227	165	
16. Lean gain per day,						
birth to 230 lb.	lb.	Over 0.55	0.45-0.55	Under 0.45	0.60	
70 lb. to 230	lb.	Over 0.80	0.65-0.80	Under 0.65	0.85	
17. Lean feed conversion						
birth to 230 lb.	lb. feed/lb. gain	Under 7.0	7.0-8.0	Over 8.0	Under 6.0	
70 lb to 230 lb.	lb. feed/lb. gain	Under 8.0	8.0-9.0	Over 9.0	Under 7.0	

Table 1. Production measures for determining production profile.

Performance measure	Unit	Performance: Excellent	Good	Poor	Attainable Goal	Your farm
18. Feed conversion for the herd						
farrow-to-finish	lb. feed/lb. gain	Under 3.3	3.3-3.8	Over 3.8	3.1	_____
farrow-to-feeder	lb. feed/lb. gain	Under 3.8	3.8-4.3	Over 4.3	3.6	_____
40 lb.-to-market	lb.feed/lb. gain	Under 3.0	3.0-3.5	Over 3.5	2.8	_____
19. Loin muscle area @ 230 lb.	sq.in.	Over 5.5	4.7-5.4	Under 4.7	6.0	_____
20. Fat depth, 10th rib @ 230 lb.	in.	Under 0.9	0.9-1.3	Over 1.3	0.8	_____
21. Av. backfat @ 230 lb. or last rib fat thickness	in.	Under 1.1	1.1-1.4	Over 1.4	1.0	_____
22. Percent lean	%	Over 56	52-56	Under 52	57	_____
23. Hogs discounted at market	%	Under 2	2-5	Over 5	1.5	_____
Mortality						
24. Birth to weaning	%	Under 10	10-12	Over 12	Under 10	_____
25. Nursery	%	Under 2	2-4	Over 4	Under 2	_____
26. Growing-finishing	%	Under 2	2-4	Over 4	Under 2	_____
27. Breeding herd	%	Under 2	2-5	Over 5	Under 2	_____
28. Litters/female/year	no.	Over 2.0	1.6-2.0	Under 1.6	2.2	_____
29. Pigs weaned/female/year	no.	Over 20	16-20	Under 16	22	_____
30. Hogs sold (raised)/female/year	no.	Over 19.0	15.5-19.0	Under 15.5	21	_____
31. Litters farrowed/ crate/year †	no.	Over 12	10-12	Under 10		_____
32. Pigs weaned/crate/year †	no.	Over 120	90-120	Under 90		_____
33. Sq. ft. of nursery, grow-finish space/ hog produced/year †	sq.ft.	Under 2.8	2.8-3.2	Over 3.2		_____
34. Labor efficiency †						
Farrow-to-finish						
Sows/F.T.E.	sows	Over 175	100-175	Under 100		_____
Hogs produced/F.T.E.	hogs	Over 2500	1500-2500	Under 1500		_____
Farrow-to-feeder						
Sows/F.T.E.	sows	Over 250	150-250	Under 150		_____
Feeders produced/F.T.E.	pigs	Over 4000	2500-4000	Under 2500		_____
Finish						
Pork produced/F.T.E.	cwt.	Over 12500	7500-12500	Under 7500		_____

* Farrowing difficulties may occur if pig birth weight is over 4.5 lb. † These standards are for intensive production systems.

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