What is Pasture Based Swine Management?

Pasture-Based Swine Management (**PBSM**) is an alternative approach for raising swine outdoors using pasture as a major source of nutrients, particularly for gestating sows. Compared with confinement or indoor systems for raising hogs, the PBSM approach can offer the producer lower initial costs, lower production costs, and a sustainable method for producing pork. Typical designs of pasture-based systems use low-cost portable housing and electric fencing. Because these systems require no expensive buildings and waste handling equipment, farmers can feasibly down-size or expand their operation depending on prevailing market conditions. In addition, the portability of pasture systems should allow farmers to utilize rented land. These systems should be especially appealing to limited-resource and/or beginning farmers.

Production Costs

A study conducted in Iowa by Mark S. Honeyman and Arlie Penner of Iowa State University compared economic and production data of indoor and outdoor herds. Results showed that fixed cost for the outdoor herds were approximately $3 less per pig weaned than for the indoor herds. Also, break-even price was almost $5 lower per pig marketed for outdoor herds compared with indoor herds. A British study showed cost per pig was $2.90 lower per pig raised outdoors as compared with pigs raised indoors. An estimated budget of the ALFDC operation for 1999-2000 is available.

Because 55 to 85% of the total production costs of raising swine can be feed costs, providing year-round pasture of good quality will help save on grain and protein costs (see "Forages for Swine"). Hogs can also be turned out onto vegetable crops after harvesting to glean or "hog off" the aftermath. This not only can provide the hogs with a source of nutrients but soil fertility may be improved due to manure deposited on the land by the hogs.

Environmental and Social Issues

There are environmental and social issues that will continue to have an impact on confinement operations. Compared with pigs raised indoors, pasture systems significantly reduce problems associated with animal-rights groups, health of operators, and environmental concerns associated with dust, odor, and waste disposal. Pasture-based systems have a "built-in" waste management system because hogs disperse their waste over the land as they graze.

The main two ingredients in conventional swine diets are corn and soybean meal. Often, these crops are managed as continuous row-crop production using potentially ground-water contaminating pesticides and fertilizers. Pasturing hogs reduces the reliance on corn and soybean production because forage crops will meet a portion of their daily nutrient needs. Therefore, a pasture-based system should have a positive social impact on the community, especially with people that are environmentally-

sensitive and/or troubled with methods used with producing pork in confinement.

Finally, hogs raised outdoors often have fewer problems with respiratory diseases and foot and leg problems than hogs reared in confinement. Healthier hogs means less antibiotic use which also appeals to many consumers.

Site Selection and Layout

One of the most important decisions to be made is where locate a pasture-based system. An area of land should be chosen that is well-drained and large enough to accommodate herd size. A land requirement of four to six sows per acre is a good place to start, but if pasture is to be utilized as feed, this stocking rate may need to be decreased. Other factors to consider when selecting a site may depend on how you plan to manage your hogs with other enterprises. A two-litter pasture system operates on a 6-month cycle, with sows farrowing in the spring and in the fall, when temperatures are relatively mild. This system fits well as an alternative enterprise on a crop or vegetable farm where labor needs are characterized by being intense at times (planting and harvesting) and less intense at other times. Farrowings, which require intense use of labor, can be scheduled to utilize labor available when crop labor needs are low. Hogs can also be rotated on land with crops to take advantage of the improved soil fertility from manure left on the ground.

The layout of paddocks will vary due to size of the herd, soil type, topography, and land area available. A minimum number of paddocks should be constructed to accommodate the different management phases (gestation, farrowing, nursery, etc.). If pastures are to be utilized, the number of paddocks will vary depending on frequency of pasture rotation. Pasture rotation will help maintain the pasture stand, nutrient quality of the pasture, and reduce damage of pasture due to rooting. Furthermore, the layout of the system will depend a lot on personal preference. A wagon-wheel design may fit the area and can lower labor needs because the distance traveled when rotating hogs among paddocks is reduced.

Electric Fencing

Power or electric fencing is a low-cost alternative to conventional fencing. The low-cost and ease of installation has contributed greatly to the increased popularity of producing hogs outdoors. The heart of the power fence system is the energizer, or charger. Energizers are powered either by 110 volt alternating current or a heavy-duty battery that is recharged by a either a battery charger or solar panel. The cost of an energizer can range from $60 to $500 depending on its features.

High-tensile, 12.5 gauge steel wire is widely used because of its affordability and durability. However, it is more difficult to install than 16 gauge metal wire. Its installation is made easier if a reel is used. High-tensile wire can cost approximately $.02 per foot. However, along with steel posts and heavy-duty insulators, high-tensile fence may last up to 30 years! A two-strand fence will suffice for most situations. However, more strands or a netting may be needed for young pigs.

It is usually necessary to train animals to electric fence. Remember it is a mental barrier not a physical barrier. With the proper charger and grounding, swine can be trained to "respect" the fence after only a few encounters. For more information

about electric fencing visit "Fencing Information".

Shelters and Shade

Some type of shelter should be provided during each stage of production. There are many designs available for each type of shelter. Factors to consider when selecting a shelter type include: cost, use, construction skills required, and personal preference. Adequate space for dry sows is 12 to 16 square feet per sow or boar.

An individual hut should be provided for each sow during farrowing. Any of several designs can be used. The amount of floor area is a serious consideration because it appears pig crushing is related to floor space. It is also advantageous if huts are relatively draft-free.

Selection of Breeding Stock

Once your facilities are ready to hold animals, the next step is to locate and purchase good-quality gilts and boars. The genetics of your breeding herd will be the foundation of your operation; therefore, it is extremely critical that you begin with good-quality stock. Today's consumer prefers pork from lean carcasses--a characteristic that is primarily determined by genetics. Lean genetics can be attained by careful selection of sows and boars. Assistance is available for locating and selecting genetically superior stock through the agricultural extension service and universities.

Nutrition and Feeding

Over 50% of the total cost of producing hogs will be feed costs. Therefore, it is important to provide a **nutritionally balanced** diet at the least cost. Remember, no one feed ingredient can provide all the nutrients swine need on a daily basis. Although, most swine diets are based on corn and soybean meal, a wide variety of feeds exists that are suitable for hogs. The key to using different feeds is to make sure they are mixed correctly with other feeds/supplements to ensure the diet is balanced based on the weight class or stage of production of the swine.

Pasture-based swine systems take advantage of the sow's excellent grazing ability to lower the cost of feeding. Wise use of pasture can significantly lower your feed bill. However, not all pastures will be suitable for sows. Pastures should be young, tender, high in protein, and low in fiber. Clovers and annual grasses such as wheat, oats, rye, and ryegrass make excellent forages for sows during the cooler months of the year. Rotationally grazing these pastures will help ensure that maximum productivity of pastures is achieved. Rotationally grazing sows helps maintain pastures at a young, tender stage of growth and helps avoid excessive trampling and rooting of pastures. Good-quality pasture can be used to replace 50% of the grain and supplement needs during gestation.

Resources :

Pigs on Pasture - The Gunthorp Farm. Greg and Lei Gunthorp have many good ideas

and tips. Visit their website.

An Agriculture That Makes Sense: Making Money on Hogs. Is a publication that describes a farrow- to-finish enterprise in Minnesota that pasture farrows about 50 sows in May and August. This publication also provides details on farrowing, feed costs, veterinary costs, shelter costs, and marketing. This farm's total actual listed costs were $17.45, $14.84, and $5.89 per hundred weight lower than the average listed costs of the top performing farmers (reported in the Southeast Minnesota Farm Business Management Program Annual Report) for 1998, 1992, and 1995, respectively. For a copy of this publication write to or call:
Land Stewardship Project, 2200 Fourth Street, White Bear Lake, MN 55110, (612) 653-0618.

A Gentler Way - Sows On Pasture by farmers Dwight and Becky Ault describe experiences of several farmers that are involved with pasture farrowing. For a copy, send $4 to Dwight Ault, Rt. 1 Box 230, Austin MN 55912.

Tom Frantzen of New Hampton, IA has many innovative ideas on how to be successful with pasture farrowing. His experiences and are described in detail in the book , Farmers for the Future, by Successful Farming Business Editor Dan Looker. It should be available from Iowa State University Press (800-862- 6657).

The **Greenbook '97** contains descriptions of three different outdoor hog enterprises; Grazing Sows on Pasture, Grazing Hogs on Standing Grain and Pasture, and Butcher Hogs on Pasture. Visit the Energy and Sustainable Agriculture Program page at the Minnesota Department of Agriculture website to find out to receive this publication.

Moorman's Outdoor Swine Technology (MOST). Program Manual. Moorman's, 1000 N. 30th Street, P.O. Box C1, Quincy, IL 62305-3115. Tele. (217) 222-7100.

Outdoor Pig Production. Keith Thornton. 1988. Farming Press Ipwich, U.K. (206 pages). Distributed in N. America by: Diamond Farm Enterprises, Box 537, Alexandria Bay, NY 13607. USA.

Practical Outdoor Pig Production. VHS Color Video (approximately 40 min. running time). Farming Press Videos, Ipswich, U.K. Distributed in N. America by: Diamond Farm Enterprises, Box 537, Alexandria Bay, NY 13607. USA.

Pasture Farrowing. PORT-A-HUT, INC. Storm Lake, IA 50588.

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