Forages for Sows

R. A. Pickett
Purdue University

J. R. Foster
Purdue University

R. Hollandbeck
Purdue University

Follow this and additional works at: https://docs.lib.purdue.edu/anrhist

https://docs.lib.purdue.edu/anrhist/6

For current publications, please contact the Education Store: https://mdc.itap.purdue.edu/
This document is provided for historical reference purposes only and should not be considered to be a practical reference or to contain information reflective of current understanding. For additional information, please contact the Department of Agricultural Communication at Purdue University, College of Agriculture: http://www.ag.purdue.edu/agcomm
This document has been made available through Purdue e-Pubs, a service of the Purdue University Libraries. Please contact epubs@purdue.edu for additional information.
Forages for Sows

R. A. Pickett, J. R. Foster and R. Hollandbeck, Animal Sciences Department

Are forages still essential for hogs?

The importance of using good pasture for developing and maintaining breeding hogs has been generally appreciated since hogs were domesticated. In fact, access to green pasture or to well cured, green, leafy hay has been considered essential for successful swine production.

Without forages, some years ago, sows farrowed fewer pigs per litter and the pigs were more likely to be born dead or weak and undersized. Pigs able to survive grew slowly and developed other unfavorable symptoms. These unfavorable results were correctly ascribed to the unidentified factors absent or lacking in adequate amounts in concentrates but more abundantly present in green forages.  

Our present day knowledge of the several nutrients required by swine, the amounts needed, the amounts present in different feeds and the ability to supply them from sources other than forages has developed to the point that forages are no longer considered an essential part of rations for growing-finishing pigs.

This has not been so conclusively demonstrated for sows, particularly during the pregestation and gestation periods. There is still a lingering suspicion that green forages may contain some unknown nutritional factor or factors essential for successful reproduction.

Forages such as high quality legume pasture, corn silage and haylage are well adapted for modern brood sow nutrition. These forages are particularly well suited to the sow gestation period where the emphasis should be on limiting the energy intake with a low cost, but nutritionally adequate feeding program.

Pastures

One economical method of meeting the nutritional needs of sows during pregnancy is by the use of high quality pasture. Good alfalfa or ladino clover pasture will supply most of the daily nutritional requirements for pregnant sows.

The nutrients that are borderline or slightly deficient when good pasture is used include energy, phosphorus and salt. The requirements for those nutrients can be met...
by feeding about 2 pounds of corn per sow per day and providing a free-choice mineral mixture containing equal parts of dicalcium phosphate and trace mineralized salt.

Figuring 10 sows for each acre and a daily rental charge for pasture of 25 cents an acre, the total daily cost for feed and pasture would be about 7.5 cents per sow. This compares with a dry lot, complete mixed ration cost of 13.7 cents daily. (The net return per acre for land thus used for sow pasture for a period of only 100 days would be $62.00. A survey of Hoosier hog farmers showed an average annual sow feed saving of $69.48 per acre, with some in the $100.00 to $125.00 bracket.)

Application of good agronomic practices in fertility and seeding and plant management will greatly increase the carrying capacity per acre over a prolonged season. See your County Extension Agent for details of this key to additional profits.

The advantages from an alfalfa-ladino pasture cannot be realized for sows bred to farrow during the winter or early spring; however, wheat pasture offers good supplies of many of the nutrients found in legume pasture. Therefore the supplementation program outlined above for legume pasture can be adapted for sows on good wheat pasture.

Wheat, particularly the Reed variety, offers a great contribution to the swine enterprise by extending the pasture season a month to six weeks, both in the early spring and late fall. Wheat is basically more palatable and the above mentioned varieties yield more forage than does the often used rye. When utilized in this manner, a good stand of wheat pasture on fertile soil saves significant amounts of feed and promotes thrift of the young pigs and well-being of the sows.

Silages

Although silages have not enjoyed widespread usage in sow feeding, early research at Purdue later confirmed at Iowa and Minnesota indicates that good corn and legume grass silages, properly supplemented, may make up a major part of the pregestation and gestation rations for sows and gilts. Nutritionally it is a good substitute for pasture--some call it preserved pasture for winter feeding. Silage can be used advantageously particularly on farms where cattle feeding is included in the operation.

Protein is the major deficiency of corn silage, while energy is low in legume grass silage. Both silages need supplemental minerals.

What are the results of feeding silage? Sows receiving approximately 12 pounds of good quality, finely chopped corn silage, 1 pound (1 1/2 for gilts) of protein supplement and free access to a mineral mixture (2 parts bonemeal; 2 parts limestone and 1 part salt) and iodized salt with some additional energy during the last month of pregnancy should:
a. gain about 90 pounds during gestation.

b. show a 20% reduction in feed costs during the gestation period.

c. farrow and wean more pigs than sows typically fed a complete mixed ration.

Similar results are noted when legume grass silage was fed along with from 2 to 3 1/2 pounds of corn and free access to minerals and iodized salt. Here again the energy levels should be increased during the last month by increasing the daily corn intake.

Haylage

A newer concept of forages has evolved in the last two or three years. This is haylage. Haylage has been defined as a legume, grass or cereal that has been cut near peak nutritional state of maturity, wilted to 35 to 45 percent moisture, finely chopped and ensiled. Some call it low moisture "grass silage."

High quality haylage is a third forage which can be used in sow rations. Nutritionally, energy is the limiting factor in the use of haylage for feeding swine.

At Purdue, sows have been able to make satisfactory gains during the major portion of gestation when fed 13-15 pounds of a mixture of 4 parts alfalfa haylage and 1 part ground corn (mixed at time of ensiling) and minerals free choice. Gilts may need additional energy throughout gestation and sows may require additional corn during the last month of gestation.

The reproductive performance of the sows fed haylage in the Purdue research was quite acceptable—11.2 farrowed; 9.8 pigs weaned. The feed costs were a little cheaper than for the complete mixed ration group (12.2 cents vs 13.7 cents per day).

Conclusion

It appears that high quality forages in pregestation and gestation rations still have a place in modern brood sow nutrition. They offer opportunities to reduce feed costs and increase pigs farrowed and weaned per litter.

References:


