

Consider wheat, barley for 'least cost' swine rations

NEWARK, Del. — Swine producers have several feed options now that new crop wheat and barley are available. Either one of these small grains can be substituted for corn.

Putting together some of these cheaper energy sources can present problems, though, says University of Delaware extension livestock specialist Richard Fowler. Rations must be flexible to allow substitutions when prices favor using another grain.

"Price isn't the only factor to

consider when making a substitution," says Fowler. "A palatable and economical energy source can be supplemented to correct nutrient deficiencies. But even when properly supplemented, it must be acceptable to the pig or poor performance will cancel out its lower cost."

Nutritionally, barley is about 85 percent as valuable as corn in swine rations. Barley contains about 7.5 percent fiber, corn has 2.5 percent. Its fiber content reduces barley's value compared to corn.

Low test weights can further decrease its value. A bushel of barley should weigh 48 pounds. Lower weights indicate higher fiber density and lower feed value for the pig.

Feed composition tables describe barley as having 11.7 percent crude protein. Most barley is lower than that, ranging between 9 and 10 percent protein, Fowler reports.

"Don't use all barley in starter diets," recommends Fowler. "Limit its use to 25 percent of the complete ration for pigs up to 50 pounds. Levels can go to 80 percent of the total ration for all other classes of pigs."

"Barley meal rations result in lower intake—especially for lactating sows during hot weather.

Consider using 40 percent barley and 60 percent corn during such times.

"Barley should be ground through a 3/16 inch screen to reduce separation of hulls from meal. If corn and barley are fed together, grind the corn through a 3/8 inch screen. Then the pigs can't separate the grains.

"One of the most effective ways to feed barley is in a pelleted form. Pelletizing improves fiber digestibility and eliminates the possibility of pigs sorting out hulls."

Recent University of Georgia research compared the performance of pigs from 47 pounds to 220 pounds on three rations—ground corn, one-half ground corn and one-half ground barley, and ground barley. All diets were equal in protein.

Average daily gain was 1.94, 1.96, and 1.78 pounds, respectively. Feed gain ratio was 3.05, 3.22, and 3.59 pounds, respectively. Thus, pigs fed the diet in which barley was the only grain source gained weight slower and required more feed per unit of gain than did those fed diets with all corn or one-half corn and one-half barley as the grain source.

Researchers concluded the 45 pound per bushel barley used in this experiment was worth 85 percent of the value of a bushel of corn.

To find out whether it will pay to substitute barley for corn in a hog ration, calculate the price of a pound of each grain. Do this by dividing pounds per bushel into the

price of a bushel of each. (Figure 48 pounds per bushel of barley, 56 pounds for the corn.) Divide the cost of a pound of barley by .85 to determine its value relative to a pound of corn.)

"The point to remember is that barley is often priced competitively with corn and when mixed with corn in a 1:1 ratio gives performance almost equivalent to an all corn diet," says the specialist.

Wheat is another energy source to consider, he suggests. It equals or exceeds the energy value of corn. At wheat harvest time, least cost swine diets will often include this grain.

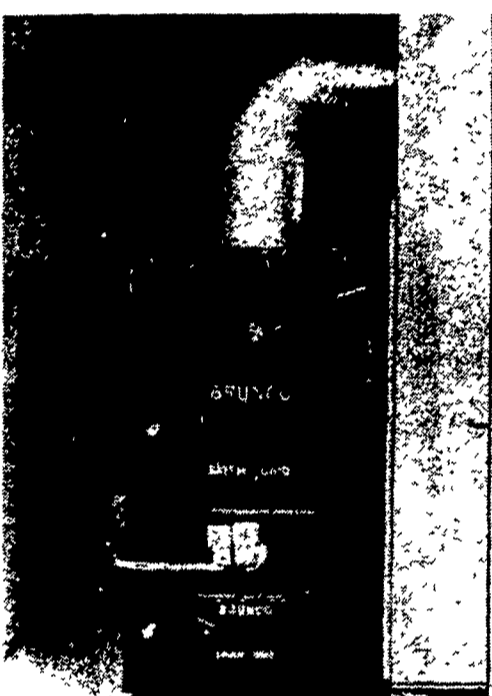
Research from the Georgia Coastal Plain Experiment Station provides some ideas on preparing wheat for swine. Four different diets were offered in a cafeteria-style arrangement. The diets consisted of: crushed wheat which had been run through a roller mill and coarsely crushed; ground wheat; equal parts ground wheat and ground corn; and ground corn. The ground grains were passed through a 3/8 inch screen on a hammermill.

Pigs consumed three times more of the crushed wheat diet than any of the others. Growth trials comparing the four diets showed average daily gains of 1.80, 1.75, 1.78, and 1.79 pounds, respectively. Feed grain ratios were 2.94, 3.20, 3.25, and 3.19 pounds, respectively.

Wheat is equal to corn as an energy source for swine. But take care not to grind it too fine," Fowler notes.

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COLLEGE PARK, Md. — Robert E. (Skip) Myers Jr., 30, has joined the staff of the University of Maryland Agricultural Experiment Station as science writer. In this position, Myers will work with university scientists, faculty and staff to develop and write material about MAES's ongoing agricultural research programs. In addition, he will be responsible

for writing MAES's annual report.

Myers, a native of Hagerstown, Md., and a graduate of the University's College of Journalism (B.S., 1976), is a former newspaper reporter, the former manager of corporate communications for a major California airline, and a freelance writer.

He is married and lives in Annapolis.

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