

# Protein: Choosing the Right Source for Your Swine Herd

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NEWARK, Del. — We in the swine industry are constantly faced with feeding decisions. Some of these decisions involve selecting feed grains and protein supplements to ensure a quality ration at a minimum cost.

Protein is one of the most expensive ingredients in a swine ration (excluding additives and premixes) and warrants some discussion.

First of all, just what is protein? It's an essential component of all animal tissue. Without it, life could not exist. The building blocks of proteins are long chains of amino acids. The order in which these amino acids are linked determines the chemical characteristics of proteins and their function in the body.

Altogether, there are about 20 different amino acids, of which 10 are essential. Each essential amino acid must be present in the

diet in adequate amount for optimum growth and performance. (Hogs can synthesize non-essential amino acids, provided enough nitrogen or other proteins are present.) So when balancing your swine rations for protein content, make sure enough of each essential amino acid is present for top performance.

Lysine is the most commonly deficient amino acid in the grains normally fed to livestock. Corn is low in lysine; soybean oil meal has more. When these two ingredients are mixed, they lysine level should be adequate.

Feedstuffs that contain more than 20 percent protein are generally considered good protein sources. Soybean meal (44 to 50 percent protein) is the major source in swine diets, accounting for more than 85 percent of all the protein supplements used.

Other possible sources include: cottonseed meal (41 percent

protein), rapeseed meal (38 percent), peanut meal (50 percent), fish meal (60 percent), dried skim milk (33 percent), and meat and bone meal (50 percent protein).

Care must be taken to avoid any protein supplement that contains enzymes or compounds that might reduce the pig's performance. For example, raw soybeans contain a trypsin inhibitor that can reduce growth rate. Heating beans to 250 degrees F will destroy this compound and eliminate the problem. Soybean meal has already been through a heating process and can safely be included at up to 20 percent of the ration.

Other supplements with problem compounds are cottonseed meal, which contains gossypol; rapeseed meal, which contains glucosinolates; and peanut meal, which is susceptible to a fungus that can produce aflatoxin. Check your sources to make sure you're getting high quality ingredients that are low in problem com-

pounds.

Now that we've covered some protein sources, how do you choose which ones to buy?

One factor to consider is the amount of supplement you can include in the ration. Soybean meal can make up to 20 percent of the ration without depressing performance. On the other hand, rations can contain up to eight percent cottonseed meal, 10 percent rapeseed meal or 10 percent peanut meal. Fish meal and meat and bone meal should not make up any more than five percent of the ration. Cost usually limits the inclusion of dried milk products.

The most important factor in choosing a protein supplement is cost. When comparing various sources, calculate the per unit cost of protein in each source.

An easy way to do this is by dividing the cost per ton by 20 to get the cost per 100 pounds of supplement. Then divide the cost per 100 pounds by the percent protein in the supplement. This gives you the per-pound cost of protein.

Example: 44 percent soybean meal at a cost of \$200 per ton; \$200 divided by 20 cwt. = \$10 per 100 lbs.; \$10 divided by .44 = 23 cents per pound of protein.

These calculations offer you a method for comparing the protein cost of various supplements. Make sure you periodically check the prices of protein supplements available, since these may vary.

For further information on protein and amino acids for swine, consult PIH-5 in your Pork Industry Handbook.

## Angus Assoc. Slates Profits Conference

ST. JOSEPH, Mo. — How to get paid for the extra value that cattlemen breed into beef cattle will be discussed by a wide range of beef cattle producers, feeders, educators and beef marketers at the National Beef Profit Conference set for September 11 and 12 in St. Joseph, Missouri.

Sponsored by the American Angus Association, conference topics will range from how to use performance pedigrees to achieve high predictability in feeder and finished cattle to how to merchandise quality beef for added profit.

Henry Gardiner of Ashland, Kansas, immediate past-president of the Beef Improvement Federation, and registered Angus breeder will keynote the con-

ference. Recognized as one of the top producers of performance seedstock, Gardiner will discuss how he has been able to stack performance pedigrees to achieve high predictability in cattle for all segments of the industry.

This will be followed by a panel of commercial cattle producers from across the country who will tell "How to add profit to a commercial herd by using Sire Evaluation." Panel members are Lynn Ballagh, Burwell, Nebraska; Gray Coyner, Delaplane, Virginia; and Tom Price, Pendleton, Oregon. The panel will be moderated by John Crouch, director of performance programs for the American Angus Association.

The day-and-a-half conference will begin at 1 p.m. Thursday,

September 11, with an open house at the American Angus Association headquarters in St. Joseph, Missouri.

Registration for the conference is \$25 which includes the program plus the Thursday night dinner and coffee breaks. For additional information and hotel reservations, write or telephone the American Angus Association, 3201 Frederick, St. Joseph, Missouri 64501. Telephone 816/233-3101.



## Virginia Sets Sale Record



Virginia's 45th Eastern Stud Ram Sale, held in Fisherville on June 13 and 14, was the largest on record. More than 650 head of Polled Dorsets, Southdowns, Hampshires, Columbias and Suffolks from Maine to New Mexico competed. Pictured are Paul Wissinger and son Ben of Sinking Spring, Pa., prepping their ram for the Dorset show. (Photo by Julie Gochenour)

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