

Hog feed improvement continues

ST. LOUIS, Mo. — An invisible revolution is going on in the research laboratories and mills that produce feed for the nation's hog farmers. According to one of the feed industry's leading swine researchers, the greatest impact of these new rations is on a hog producer's most important concern — the bottom line.

"Basic and applied swine research, in tandem with advances in feed mill processing, has greatly improved the efficiency and reduced the real cost of swine feeds in the last ten years," said Bud Harmon, director of swine research for Ralston Purina Company. "Rations available to today's producers are better matched to the nutritional needs of a hog than they were ten years ago. This translates into better feed efficiency and lower cost of feed per pound of pork brought to market."

Harmon pointed to two major changes in swine feeds during this period that resulted from research and feed processing discoveries — amino acid balancing and high energy content.

"Producers have long been aware of the need for a minimum level of amino acids and energy in

swine feeds. Research developments in the past few years have defined the exact amounts of these inputs required at each stage of a pig's development," detailed Harmon. This has evolved into new kinds of feeds that allow a producer to take advantage of a hog's potential to gain rapidly," he added.

"For too long, amino acid requirements were expressed as a percent of diet for a given weight pig, without consideration for other nutrients," explained the Purina researcher. "We now know the balance of amino acids is crucial. Failure to avoid imbalances will impair performance. This is why feed tests with the High Octane line of rations produced gains that were greater than results from feeds hogs that were not amino acid balanced."

The same holds true for the energy content of hog rations, Harmon continued. "Minimum requirements have been known for a while. Defining the optimal amount of energy for each stage of a pig's growth is a recent development."

The researcher explained that energy levels must be adjusted to a pig's age and size, and must be

watched carefully in boars gilts and gestating sows. "For example, sows fed too much energy in the first 60-70 days of gestation suffer higher rates of embryonic mortality. However, research has shown that sows receiving a palatable, high energy effectively to produce larger, healthier pigs, Harmon explained.

Discovery of the importance of certain levels of amino and energy did not immediately change swine feeds. "Knowledge of swine physiology and nutrition is always weighed against what can be done in practical swine rations, and may be dependent on processing technology" he continued.

"Since the introduction of high energy rations, hog producers have wanted a high energy concentrate that allowed them to use more corn than existing concentrates, in order to make better use of grain surpluses," he said.

This situation changed only recently, he said, after years of research and development of feed processing techniques. "A recent breakthrough in processing now allows us to offer a 38 percent protein, high energy supplement, High Octane Hog Chow 38.

"This breakthrough revolved



around incorporating fat into the feed in a different way than we had ever done before, and allows us to get more fat into the ration," he explained. "It also produced a side benefit—a supplement that flows well, even in sub-zero temperatures."

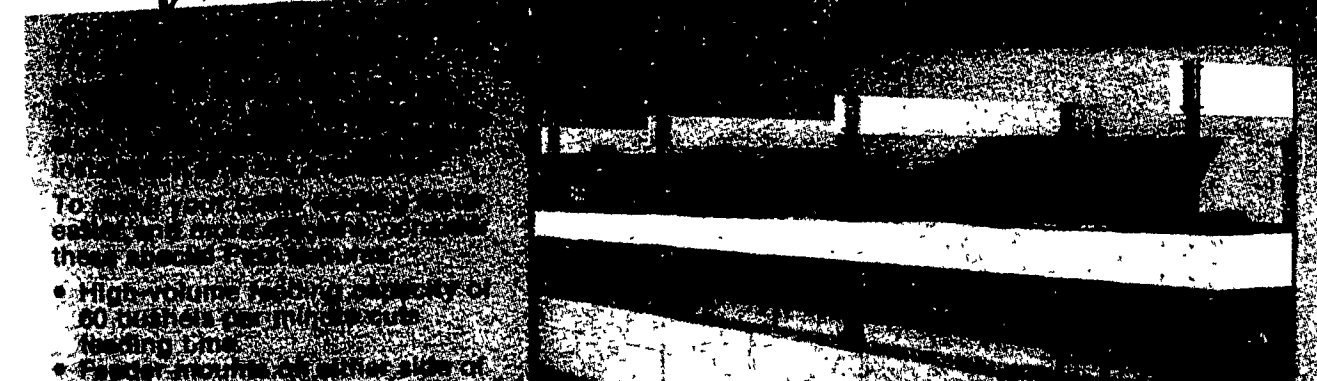
"The obvious benefit to a producer with large amounts of grain to be used is less out-of-pocket costs—four to five dollars per head fed out-to-market," he

added. "This new product allows a producer to use 43 percent less concentrate per ton of ration, which translates to about 1.7 more bushels of grain per finished hog."

Harmon concluded with a look to the future. "Technological change stemming from research discoveries has made significant changes in a producer's bottom line. We still have a long way to go, but I think the feed industry is up to the challenge."



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