

Color hides good nutrition and good flavor

Sunflower seed may become major protein source

Cattle are now eating protein that could assuage the hunger of children starving in Pakistan, or if that's too far away to affect one's sensitivities, think about Mexico — or Texas.

"They're eating the high protein products of sunflowers seeds which, because of husking problems and tendency to turn green or black when cooked, aren't considered useful for human consumption."

Two Texas A&M University scientists, Drs. Peter J. Wan and Karl F. Mattil, are the principal investigators on a project to remedy the harmful sunflower's shortcomings.

The duo works through the Food Protein Research Center for A&M's Texas Engineering Experiment Station. The program is funded by the USDA's Agricultural Research Service.

"The sunflower seed is about 25 per cent protein, and the meal pro-

duced can be 50-60 per cent protein," Dr. Wan pointed out. "Good protein with a good flavor."

"However," added Mattil, "in processing the meal for foods, we often use alkaline reagents like baking soda. When you use it on sunflowers you had better be Irish because it's going to be green."

"People like clean colors in their food," he continued. "They want their bread and potatoes white, a desire that becomes even stronger among the poor who would be the main beneficiaries of a low-cost protein. In many foods this coloration just would not be satisfactory."

The culprit in this coloration is chlorogenic acid which is found in a lot of plant material and has no reported adverse biological properties. It is present in large quantities in sunflower seeds.

"The meal is currently used only for cattle feed and sold at the lowest

conceivable value," said Mattil. "It could be worth twice or three times as much if it were used for human consumption."

"An increase in value that great could put the sunflower seed into commercial competition and will make it a much more valuable crop to Texas farmers," said Dr. Wan. "Right now though, the sunflower seed cannot stand on the value of its oil alone."

"The vegetable oil market has

been like a roller coaster for the past two years," he said. "We know the oil is very good but its price will be depressed by the world production of palm oil, which is reaching its peak, and the increased production of soybeans in Brazil. This has severely demoralized the vegetable oil market in the U.S."

"The result is we must demonstrate a higher value for protein from the sunflower seed and get it into the food chain," Wan said.

"This will increase real value and food value."

"Eventually, the world will find a place for all this oil but in the meantime a lot of people will suffer and it is usually the small one-crop farmer," Mattil said. "They're now asking if they can afford to grow sunflower seeds profitably. The answer is yes, if we can increase the protein, and no if not."

"We're already ten years behind in development," he said. "You

need to start research a decade before the demand is felt. We have people who are hungry in Texas right now. Protein foods are expensive, and we can't wait until later to develop this resource."

"Look at the price of meat, cheese and milk," said Wan. "Poor and retired people are losing out on protein, so someone has to develop low-cost protein."

"Peter will find out how the chlorogenic acid is bound to the

meal," Mattil attested. "We have guidelines for a complete pilot plant operation within years. It will require a hunch and luck. Sometimes is most important. It won't be but it will be a challenge."

Dr. Peter Wan is also principal researcher of a project to remove the fiber of the seed during commercial production and meal from sunflower seed

Livestock production efficient agriculture

Despite the claim by elitists that U.S. agriculture wastes grain through excessive meat production, the nation's agricultural production, research and marketing can be proud of its accomplishments, a prominent cattle feeder said here last week.

Kenneth R. Monfort, board chairman of Monfort of Colorado, Inc., said there is no reason for shame that U.S. farmers and ranchers have produced so much food and fiber at reasonable cost to consumers, and with such a small percentage of the overall population involved.

Monfort told about 1,800 mem-

bers of the American Society of Animal Science 68th annual meeting (Aug. 16-18) at Texas A&M University that there are those who want Americans to feel ashamed for eating so well.

The reason the citizens eat well, he said, is because farmers and ranchers produce meat protein, as well as food grains, and they do it through efficiency, hard work and the research tools gleaned from colleges and universities.

"Animal agriculture has been particularly condemned by many of the elitists throughout our nation," Monfort said. "They decry what

they believe to be the inefficiency of producing protein with livestock and poultry. They state flatly that we should not use our grain supplies to produce meat."

The speaker said these same elitists usually ignore the fact that much of the nation's agricultural acreage has one best use — the production of livestock.

"They ignore the fact that our greatest crop of all, corn — yellow corn — is primarily a feed grain and will in the foreseeable future continue to be used in production of meat whether we use it at home or whether it is exported," he said.

Monfort then listed many of the research accomplishments by such agencies as the Texas Agricultural Experiment Station. The advances are now standard practice in most cases.

But he told researchers in the ASAS meeting that "your job has just begun. We need so much more."

He said a cow still has only one calf a year. It still takes about eight pounds of feed for a pound of liveweight gain in the feedlot, and 20 pounds of feed for a pound of edible beef. Too often, undesirable

meat is graded U.S. Choice. Desirable meat is not graded.

Monfort put the ASAS on the spot by listing what he called "wild" research goals which he celebrates as tri-centennial.

He said he would like to see a per cent calf crop, 1,200 steers at 12 months of age on only the last 260 pounds of the feedlot; a conversion of eight pounds of feed to a pound of liveweight gain in the feedlot, and 20 pounds of feed for a pound of desirable beef. Too often, undesirable

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Livestock fed recycled manure; cattlemen say utilizing protein is good business

Two cattlemen in the southeastern United States are making efficient use of animal wastes by recycling them in a practical feeding program.

Russell May of Timbertown, Va., and Sam D. Hay, Jr., of Covington, Ga., talked about their operations at the annual meeting of the American Society of Animal Science at Texas A&M University Aug. 15-18.

May, who runs an Angus herd along with swine, poultry and

sheep, discussed the use of poultry litter in rations for his beef herd, brought on mainly by the need for a more efficient type of feed. He initiated litter feeding in the 1960's under the pressure of drought conditions, and has since expanded his operation. Early rations consisted of one pound of corn meal and three pounds of litter, supplemented with hay during the winter months. Now May mixes corn silage along with the litter, with his cow herd receiv-

ing a ration of 25 per cent litter and 75 per cent silage.

The key to using litter is its palatability to cattle, said May. He piles up the litter from his poultry operation for four to six weeks to allow it to go through a heating period before using it in a feeding ration.

Hay, whose main business is a backgrounding and cattle finishing operation, recycles manure by using a ration consisting of 45 per cent corn, 15 per cent corn silage and 40 per cent manure.

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