

## Dairy Farmers Establish Institute To Study Diet, Genetics, Heart Disease

BATON ROUGE, La. — The National Dairy Promotion and Research Board announced that it has approved funding to establish the Dairy Institute on Diet, Genetics and Heart Disease at the Pennington Biomedical Research Center of Louisiana State University.

The National Dairy Board, funded by dairy farmers from across the nation, will provide \$1.6 million over three years to create the Dairy Institute. The Dairy Institute's research program will investigate the effects of varying levels of fat in the diet on risk factors for heart disease and how these risks may be influenced by genetic factors.

"We are very enthusiastic about the prospects of this exciting research, which will address the leading cause of death in the U.S.," said John Peachey, Florida dairy farmer and chairman of the National Dairy Board's Dairy Foods and Nutrition Research Committee. "We look forward to meaningful results that will lead to improved quality of life for all Americans."

Louisiana Commissioner of Agriculture Bob Odom said the Pennington Center's ability to attract a program of such vital interest to the nation demonstrates the quality of work now being performed at the research center. "Establishment of the Dairy Institute will boost the Pennington Center's reputation in the nation's scientific community even further."

Low-fat diets have been widely promoted as an effective means to reduce the risk of heart disease,

according to Paul Roheim, M.D., who will direct the Dairy Institute's research program.

"But previous research has demonstrated that such reductions may not be beneficial for everyone. We will examine whether certain individuals may actually be more at risk when consuming a low-fat diet," said Roheim, director of the Division of Lipoprotein Metabolism and Pathophysiology at the LSU Medical Center in New Orleans and professor of medicine and physiology at the LSU Medical Center and the Pennington Center.

To identify individuals who may increase their risk of heart disease by consuming a diet low in fat, investigators at the Pennington Center will study levels of cholesterol and other lipids in the blood of 100-120 male volunteers and how these levels are influenced by genetics and changes in diet, particularly intake of dairy fat, he said.

The study includes three six-week feeding periods. During this time, all volunteers' meals will be prepared and served by the Pennington Center's metabolic kitchen. In each of the three feeding periods, the percentage of total fat and saturated fat in the meals will be varied. The study is expected to begin early this summer.

Michael Lefevre, Ph.D., who will serve as co-principal investigator on the project, said a low-fat diet reduces risk for heart disease by also reducing saturated fat intake, which, in turn, reduces LDL, or "bad," cholesterol levels in the blood. "Some people respond very

well to this therapy, but others respond only modestly, if at all."

The catch, he said is that a low-fat diet also reduces HDL, or "good," cholesterol and increases triglycerides. Low levels of HDL and high levels of triglycerides are additional risk factors for heart disease. "So if a low-fat diet lowers HDL levels and increases triglycerides in an individual without significantly lowering total cholesterol levels, such a diet may be doing more harm than good."

To identify these individuals, the Dairy Institute will follow up on previous research funded by the National Dairy Board, which identified a gene marker believed to be linked to the risk of heart disease.

"There is evidence that this gene marker controls the size of the LDL particle. The particle size may be a predictor for both those who will and those who will not benefit from a low-fat diet," said Lefevre.

A technique based on this discovery will be used to screen volunteers according to their genetic makeup. In conjunction with information from the feeding studies, the results should provide insight into the role genetics and levels of fat in the diet play in the risk for heart disease, said Roheim.

"Hopefully this information will allow us to tailor dietary recommendations to individuals based on their genetic traits," he said. "This would be a significant step toward reducing the risk of heart disease."

## Disease Prevention Increases Alfalfa Productivity

DON ROBINSON

Lancaster Conservation District "Queen of the Forage Crops" may seem a regal name for a crop as commons as alfalfa. But as Pennsylvania dairy farmers know, alfalfa is a major source of protein in their feed programs. As silage or dry hay, it often accounts for 25 to 50 percent of a program. Given its importance, this crop deserves the royal treatment.

The success of a stand can determine the success of the feed program. Most growers realize that good establishment practices lead to longer-lasting stands and higher yields. A number of factors, however, can limit a stand's potential. With vulnerable seedlings, there may be no greater threat than the presence of disease.

With many pests, like insects and weeds, growers see a direct influence on the health and productivity of a stand — but the effects of soil-borne diseases can be overlooked. Robinson worked extensively with alfalfa while an adult farmer teacher in Lancaster.

If seedling diseases like damping-off and root rot, caused by Pythium and Phytophthora respectively, infect root systems, Robinson says growers can see an immediate stand reduction at first

cutting. Losses vary, but at its worst, disease can eliminate an entire stand. Sometimes the damage is not always that noticeable. With infected roots, alfalfa loses some of its ability to over-winter, which can decrease yields in later years and shorten the productive life of a stand.

Both diseases are an annual threat. The region's cool, wet springs provide ideal conditions for the development and spread of disease. While all soils can contain these disease pathogens, poorly drained, low areas are especially susceptible.

Disease control must begin before disease is present. There are few measures that can control Pythium or Phytophthora once they infect a plant, so it becomes essential to incorporate preventive management practices. If possible, don't plant in low areas or use conservation practices like terracing or contouring. And rotate crops, particularly in fields that have a history of disease.

Selection of disease-resistant alfalfa varieties with a seed treatment also can limit disease impact. But often these safeguards are only temporary. Preventive

applications with a fungicide like Ridomil® 2E increase protection."

Despite the continual threat of disease many growers still don't know enough about fungicides to use them during stand establishment. The cost of an additional input and one more trip into the field may discourage some growers.

The most dramatic results are in the first year. In my test plots, plant counts and yield in stands treated with a fungicide was consistently higher than untreated stands, especially in wet years when plants are prone to disease.

In 1990, we had a very wet year. But when plant counts were made, the fungicide-treated fields averaged nearly 40-percent more plants per square foot than untreated acres, which translated into a 28-percent higher yield. That's a dramatic difference.

A healthy stand in the first year increases productivity throughout the life of the stand. If growers can improve a stand by 20 percent, they prevented a 20 percent loss. These "extra" plants mean higher yields in following years. It may even extend stand life.



Austin Blakeslee, chairman of Monroe County Conservation District board of directors, center, and the district's head naturalist, Roger Spotts, right, accept the Conservation District of the Year award from Zeneca Ag Products manager-Agribusiness Affairs Dick Foell at the National Association of Conservation Districts' annual convention in Phoenix. Monroe County CD was recognized for its innovative conservation education programs.

## Alfred State Calls For Ag Dialog

ALFRED, N.Y. — Building upon Alfred State College's strong reputation in the field, College President Dr. William D. Rezak is spearheading an effort to match Alfred State agriculture programs with industry needs for the 21st century.

Recently Rezak called together some 40 agribusiness leaders from Western New York to begin dialog on the future of agriculture education in the region.

The Agriculture Strategic Planning Council will focus on charting a course in which Alfred State's agriculture programs can bolster the economic foundation of Western New York, he said.

"This is a highly talented group dedicating time and energy to help create the future for agriculture/food science programs in the 21st century," said Rezak.

Keynote speaker for the initial meeting was Richard McGuire, New York State commissioner of agriculture and markets.

In addition, state Sen. John (Randy) Kuhl (R-Bath) attended along with representatives from Cornell University and the State University of New York Agricultural and Technical Colleges at Cobleskill and Morrisville.

Council participants include successful growers, dairy farmers, processors, and distributors from every aspect of agribusiness.

During the group's first session Feb. 17, Rezak, who is council chair, presented an overview of current agriculture programs and asked the council members to help Alfred State identify educational programs which could best ad-

dress their needs. He also charged the Agriculture Strategic Planning Council to determine ways to attract students to these programs.

The council was born out of a determination to "rejuvenate" the agricultural offerings at Alfred State College, said Rezak.

"Those in the agricultural field tell us we have excellent programs," and our "grads our sought after," he said, but enrollment in these programs is on the decline.

"Alfred State is the only college in the western part of the state offering a full spectrum of two-year post-secondary educational programs in agriculture and related curricula," said Rezak. "If these programs are to flourish in the 21st century in response to the needs of agribusiness in the western part of the state, we must do something differently."

"Like land, human resources are one of the few assets which appreciate over time," said Rezak. "It is essential that Alfred State be able to focus on the human resource needs of agribusiness in Western New York in order to provide a continuing supply of well-educated professionals so critical to the success of the food enterprise."

The Agriculture Strategic Planning Council will meet throughout 1994 to map Alfred State College's future role in agriculture education.

In early 1995, the council will produce a report making recommendations regarding agriculture and related programs that Alfred State College will offer. The group will next meet in late spring.

## Bible Becomes President

KANSAS CITY, Mo. — Ed Bible has been named president of the American Polled Hereford Association, headquartered in Kansas City.

A 20-year employee and senior vice president of the national breed association, he assumed his new post in early February.

He first joined the association as editor of the breed publication, Polled Hereford World, and as

director of communications. Besides his magazine, advertising and promotion duties, he is also director of the association's field staff.

He has served as president of the Livestock Publications Council, as a national officer of the National Agri-Marketing Association, and was that group's Ag Communicator of the Year in 1993.

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