



Farm Talk

by
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Free nitrogen

Free nitrogen for agriculture? What a great idea. Think of how much money farmers could save if that were only true.

Nitrogen is already free to some crops and researchers are looking for ways to make it free to a lot more.

With one eye on the world food supply and being ever aware of increasing fertilizer prices, agricultural scientists at the University of Florida have been looking at a group of nitrogen-fixing bacteria that permit certain crops to obtain nitrogen directly from the atmosphere.

The leader of the research effort says the use of nitrogen-fixing bacteria could save millions of

dollars in fertilizer costs and go a long way to boosting the world food supply, particularly in the developing countries. You see, right now most crops get their nitrogen from man-made chemical fertilizers and current technology calls for the use of large amounts of natural gas to produce nitrogen for commercial fertilizers. But the nitrogen-fixing bacteria would take advantage of the virtually inexhaustible amount of nitrogen that is in the atmosphere. It's already there. A free supply of non-polluting nitrogen that won't run off, that won't cause pollution, and won't use up valuable energy in its production.

From air

This free nitrogen is

everywhere. In fact, 78 percent of the atmosphere is nitrogen, and somebody figured out that there is 37,000 tons of nitrogen above each acre of ground. The trick is to find a way to get plants to use it and that's what the researchers are looking at. They hope to get pasture grasses and cereal and grain crops to use this free nitrogen the same way soybeans and peas and other legumes are nitrogen from the atmosphere.

Pasture grasses being tested could be used for livestock or rotated with corn and cereal grain crops, with the nitrogen-fixing bacteria providing almost half the crop's nitrogen requirements. According to the researchers, bacteria-treated grass has yielded up to 50 percent more than non-treated grasses.

In one test they used 80 pounds of nitrogen fertilizer per acre in addition to the nitrogen-fixing bacteria, achieving a plant yield that would normally require 120 pounds of nitrogen fertilizer per acre. So they saved about 40 pounds of nitrogen fertilizer per acre. Project that over the thousands of acres that are fertilized annually and you come up with one tremendous saving to agriculture. The potential for worldwide saving is also there as more and more countries move ahead with their agricultural revolution.

Grass rotation

If the researchers can get the pasture grasses to pick up the free nitrogen, then perhaps they could be rotated with other crops, corn for instance, in a way that the corn would use that nitrogen. It's long been a standing practice to use alfalfa, which picks up nitrogen from the atmosphere, to furnish nitrogen to the crop that follows. So not only would this research benefit the livestock producer, it

could also benefit the general crop producer who is following a rotation of grasses and grain crops.

This research offers a saving in dollars to farmers, plus saving a valuable energy source—the natural gas that's used to produce a very valuable resource for the developing nations who have neither the nitrogen fertilizer producing facilities or the natural gas to produce it with.

CARROLL-BALIMORE, MD DHIA July 1983

Francis H. Barnes, New Windsor had the herd with the highest average for the month of July according to figures just released by the Carroll Baltimore Dairy Herd Improvement Association.

During the month of July 112 dairymen in Carroll Baltimore Counties participated in this program. Listed below are the top eight herds based on their herd averages over the past year.

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Harry W Roach III	68	18 132	731
Del Myr Farm (Roger Myers & Sons)	95	19 907	726
Maple Lawn Farm Inc (C E Lager & Son)	149	18 778	705
Marlin Hoff	398	18 751	692
Cedar Knoll Dairy Farm (Jerry Watt)	68	16 860	687
William J Dickinson	76	16 266	656
F Lindsay Wilson	85	18 130	655

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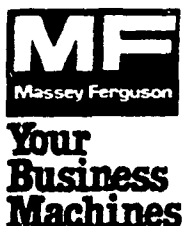
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