EPA Adds \$2.1 Million To Bay Cleanup Effort

HARRISBURG

vironmental Resources Secretary Nicholas DeBenedictis this week announced receipt of a \$2 1 million federal Environmental Protection Agency grant for the third year of the Commonwealth's program to help improve the environmental quality of the Chesapeake Bay.

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"The EPA grant, matching the Commonwealth's \$2.1 million

NEWARK, Del. – Alfalfa fields established in the fall of 1985 or spring of 1986 struggled all season in southern Delaware. "This has been a long, frustrating season for many crops and even a deeprooted perennial crop like alfalfa had problems – especially stands less than a year old," says University of Delaware extension agricultural agent Bob Hochmuth.

In most cases, he says, alfalfa planted last fall or spring got off to a fairly good start, and plant stand

commitment in this year's state budget, brings Pennsylvania's 1986-87 Chesapeake Bay program to \$4.2 million," DeBenedictis said. Since 1984-85, more than \$10 million has been committed by state and federal governments for Pennsylvania's efforts to help in the bay cleanup working jointly with Maryland, Virginia and the District of Columbia.

"Pennsylvania's participation in the Chesapeake Bay cleanup is vital to its success," EPA Region III Administrator James M Seif said. "Half the nutrients and a great deal of the sediments enter the bay from Pennsylvania's portion of the Susquehanna, particularly from the southern counties where farming and livestock are concentrated '

Fifty percent of Pennsylvania's program funds improved nutrient management practices on farmland in the Susquehanna River Basin To date, more than 300 farmers have expressed interest in the cost-sharing program, with design or construction of facilities underway on 100 farms in Adams, Chester, Dauphin, Lancaster and

York counties.

"Earlier this fall, Lt. Gov Scranton announced expansion of the cost-sharing program to counties in the upper Susquehanna River Basin," DeBenedictis said "Upon completion of watershed assessments, the cost-sharing program will be extended to Northumberland, Union, Lycoming, Centre, Montour and Snyder counties."

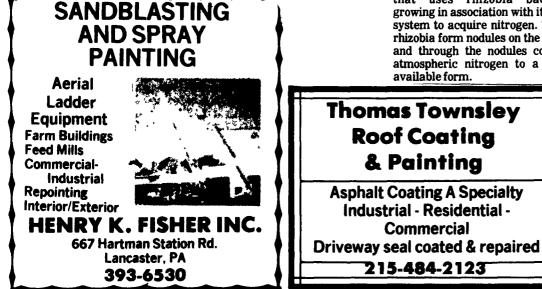
Under the cost-sharing program, farmers may receive 80 percent of the cost of implementing an approved nutrient management program, up to \$30,000. Approved practices include reduced tillage systems, animal waste handling and storage facilities, contour farming and stream protection measures.

Pennsylvania's bay program also includes extensive educational programs for the agricultural community and general public and technical assistance for county conservation districts.

Pennsylvania's Chesapeake Bay program is administered by DER in cooperation with the State Conservation Commission and conservation districts.

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Drought Causes Nodule Loss In New Alfalfa

counts were acceptable. Then they were zapped by hot, dry weather.

Even with adequate moisture during August and early September, these new stands have not responded. What's the problem?

Through Cooperative Extension's alfalfa integrated pest management program, scouts visited many Delaware fields weekly during the growing season. They noticed that new stands weren't regrowing quickly even after the rain came in August.

"Most of these problem fields had high soil test levels, so we didn't think lack of fertility could be the cause," Hochmuth says. "Diseases weren't a factor either-most crowns and stems were healthy and disease free. But when we carefully dug the stunted plants out of the ground and examined their root systems, the cause of their poor and yellowed regrowth was obvious. These new stands had lost their nitrogenfixing nodules."

Alfalfa is a legume, a plant type that uses rhizobia bacteria growing in association with its root system to acquire nitrogen. These rhizobia form nodules on the roots, and through the nodules convert atmospheric nitrogen to a plant available form.

a living organism, it too suffers during extremely hot, dry weather," Hochmuth explains. "Early last spring these new stands were well-nodulated. But during the period of drought this summer, the nodules were forced into dormancy. When the rains finally came, the alfalfa plants had to become re-nodulated naturally in the field. With a young stand, there are only a few bacteria in the root zone, so it takes longer for plants to form nodules. As a result, the alfalfa becomes stressed and deficient in nitrogen.

'Since the rhizobia bacterium is

"These plants are slowly becoming re-nodulated, and stands are recovering. But to get the roots off to a quicker start and hasten the nodulation process," the ex-tension agent continues, "in some cases this fall we recommended applying a little nitrogen-about 20 pounds per acre-from a commecial source."

Farmers who suspect they have had or continue to have this problem in alfalfa should contact their county extension agent for assistance in checking nodulation, Hochmuth says. Extension agents can be reached in Newark (451-2506), Dover (736-1448) or Georgetown (856-7303).





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