

Cadmium limits determined for sewage sludge

UNIVERSITY PARK — Excessive cadmium in sewage sludge, a potentially dangerous metal in the food chain, is the key factor hindering development of a sludge-fertilizer industry in Pennsylvania, soil chemists at Penn State commented recently.

"A worthwhile goal is to develop such a fertilizer industry from sludge containing low amounts of cadmium, no more than 20 to

50 parts per million of cadmium in sludge," declared Dr. Dale E. Baker, professor of soil chemistry at University Park. He described 50 parts per million of cadmium as equal to 50 pounds in 500 tons.

Where sludge is applied, soil tests should be used to monitor the level of cadmium in the soil, he advised. Cadmium additions to the soil must not exceed three pounds per acre, based on Pennsylvania guidelines.

Ann M. Wolf, graduate assistant in agronomy, stated that cadmium in soil must be kept at very low levels since it remains within the plow layer and increases the plant and food chain concentrations of cadmium. Sewage sludge applied to Penn State test plots at 10 dry tons per acre for seven years increased soil test levels of cadmium from less than one-half pound per acre to five

pounds per acre, an excessive level.

On properly limed soils, farmers can apply up to 30 tons per acre of low cadmium sludge without increasing levels of cadmium above three pounds per acre, Dr. Baker pointed out. From this 30 tons per acre, farm crops will take on valuable nutrients, especially nitrogen and phosphorus.

Feeding studies at Penn State showed that diets containing one to three parts per million of cadmium could increase significantly the level of this element in livers and kidneys of laboratory animals. However, cadmium did not increase greatly the muscle or eggs. The experiments were carried out with field mice, baby chicks, and laying hens.

The Penn State soil chemists stated that scientists do not agree on what are safe dietary levels for cadmium in human food. Currently, the major sources of health-threatening accumulations of cadmium in the human body are food and cigarettes. The conclusions are featured in the Spring issue of "Science in Agriculture," the quarterly magazine of the Agricultural Experiment Station at Penn State.

For land application of sewage sludge, a municipality or hauler must obtain a permit from the Pennsylvania Department of Environmental Resources, it was pointed out. Growers, in addition, should not accept or apply sewage sludge on crops without a complete

chemical analysis of the sludge. Levels of cadmium and other substances in sludge can be determined directly by the Penn State Soil and Environmental Chemistry Laboratory, 106 Agricultural Administration Building, University Park, Pa. 16802.

Information on the procedure is also available from county offices of the Cooperative Extension Service.

The Spring issue of "Science in Agriculture" features this study of cadmium and other research within the Agricultural Experiment Station at Penn State. To get on the free mailing list for each issue, one can write to 229 Agricultural Administration Building, University Park, Pa. 16802.

Youth help senior center members

NEWARK, Del. — Don't criticize modern youth within earshot of the members of the Newark Senior Center—unless you're looking for an argument. The Newark Seniors think today's teens are terrific.

That's because the teenagers they know are members of the New Castle county 4-H organization. Karen and Kim Garland, Holly Schutz, and Lynn Patterson, all of Newark, are spending their summer helping the senior center members however they can.

To request 4-H assistance, any Newark Senior Center member may contact Kim Wipf, Extension community research developer for New Castle county. She coordinates the program and accompanies the 4-H members

as they mend, scrub or mow—all free of charge.

According to Wipf, mending is the most frequently requested service. It's light work for the 4-H'ers, many

of whom learned to sew through the 4-H program, yet it's a formidable task for people whose hands and eyes have lost some of their usefulness over the year.

DOUBLE YOUR BROOD-GROW CAPACITY WHILE REDUCING LABOR AND EQUIPMENT INVESTMENT.

ANNOUNCING A NEW NORTHCO BROOD-GROW CAGE SYSTEM.



The Northco Double Deck Brood-Grow Cage System from A.R. Wood puts new profit potential in your brood-grow operation. By stacking two cages on top of one another and using a single auger line to supply an upper and lower Master Pan Feeder, we've designed a system that does it all.

Doubles Bird Capacity In new or existing buildings, our new system can double your brood-grow capacity.

Lowers Building Cost Our new system substantially reduces building cost per bird.

Reduces Labor You only handle the birds twice. Once to put them in, once to take them out.

Energy Savings Compared to single deck or floor birds, energy usage per bird is substantially reduced.

Performance Our new system has been tested in our growing house and by independent producers. The results are clear: exposure to droppings does NOT affect the uniformity or later egg production of birds in the lower deck.

For more information, complete this coupon & return to
THOMAS FARM SYSTEMS, INC.
57 W. Main St., Leola, PA 17540

NAME _____
ADDRESS _____
CITY _____
STATE _____ ZIP _____
PHONE _____

NORTHCO SYSTEMS

PH: (717) 656-2677

P-9/1

☺ have a nice weekend...

MEET SOMEBODY NEW!



COMPLETE FARM PAINTING



We Use Quality PAINT

AERIAL LADDER EQUIPMENT

- Modern and Efficient Method
- Reasonable Prices
- Spray On and Brush-In Method
- Sandblasting if Necessary

FOR FREE ESTIMATES WRITE

ESH SPRAY PAINTING

(Daniel S. Esh, C. Ralph Miller)

SPRAY-ON AND BRUSH-IN PAINTER

Box 350A

Ronks, PA 17572

or call this number

717-687-9155

or 717-687-8262

INDUSTRIAL

COMMERCIAL

RESIDENTIAL