

Weekly

(Continued from Page A2)

67.50-70.00, few 70.00-71.10; Good and Choice 1-2 1100-1450 lbs. 68.75-71.25, 10 head 71.75-73.50; Choice 2-4 1100-1450 lbs. 64.75-68.50, few 68.50-68.85, high Good and low Choice 2-3 62.50-65.50, few 65.50-66.50, Good 2-3 59.00-63.50; Good and Choice 1180-1580 lb. holsteins 56.00-60.00, several early part of week 60.00-63.00, Standard 1-2 52.00-56.50.

SLAUGHTER HEIFERS: Couple lots Choice and Prime 3-4 1150-1250 lbs. 64.00; Choice 2-3 875-1125 lbs. 59.75-63.50, couple Yield Grade 2 63.60-66.50; Good 2-3 800-1075 lbs. 53.00-60.00.

COWS: Utility and Commercial 1-3 closed at 47.00-50.00, few 50.50-53.60, Commercial 3-4 43.50-47.50, Cutter 1-2 44.50-48.50, few 48.50-51.50, Canner and low Cutter 40.00-45.50, few 39.00-41.00.

BULLOCKS: Choice 950-1350 lbs. 59.25-62.75, couple 63.00-65.00; Good 950-1250 lbs. 53.50-60.00.

BULLS: Yield Grade 1 1350-2080 lbs. 53.00-57.50, few 57.50-61.25, individual 2300 lbs. 67.00; Yield Grade 2 1000-1350 lbs. 50.00-54.00.

VEAL CALVES: Vealers firm to 5.00 higher. Demand very good for calves to return to farm.

VEALERS: Choice and Prime special fed 280-350 lbs. 126.00-130.00, few Choice and Prime 255-300 lbs. 117.00-126.00; Choice 145-320 lbs. 100.00-116.00, couple 116.00-125.00; high Good and low Choice 160-300 lbs. 80.00-100.00, 120-160 lbs. 70.00-85.00, 70-115 lbs. 60.00-74.00.

RETURNED TO FARM: Bulk 90-120 lb. holstein heifers 100.00-121.00, few 70-85 lbs. 70.00-90.00; bulk 90-125 lb. holstein bulls 90.00-122.00, around 100 head 122.00-130.00, few 80-90 lbs. 75.00-105.00.

Are ag chemicals working against themselves?

BELTSVILLE, Md. — The very chemicals that are helping to keep United States agriculture preeminent may be contributing to their own loss of efficiency.

During the last 10 to 15 years, U.S. farmers have moved away from the more persistent chlorinated pesticides, many of which are no longer registered, and have come to depend on a number of chemicals that have a similar structure, said U.S. Department of Agriculture microbiologist Donald D. Kaufman. In an increasing number of farm soils, repeated use of similar pesticides is stimulating a buildup of the soil microorganisms that are capable of rapidly degrading these compounds, thereby reducing their effective life in some cases from months to days. As a result, when pesticides are incorporated into the soil, farmers have little or no pest control.

Began in Midwest

Speaking this week at the Beltsville Agricultural Research Center's eighth annual symposium, "Agricultural Chemicals of the Future", Kaufman said that the problem came to light about 8 years ago when Midwestern corn farmers began reporting that insecticides used to control rootworm, and herbicides used against nutsedge and certain grasses, were not doing the job they were supposed to do. From 1978 to 1980, when Kaufman first began studying the problem, the number of farmers reporting a lack of efficacy rose tenfold and has continued to climb steadily.

The complaints are no longer restricted to these pesticides or to Midwestern corn, says Kaufman, who is part of USDA's Agricultural Research Service. They are beginning to occur with soybeans, vegetables and other commodities where farmers use the same chemicals year after year.

The chemicals include insecticides, herbicides, fungicides and fertilizers which, when incorporated into the soil, come in direct contact with the microorganisms. (See chart attached.) "A microorganism that adapts to utilize one chemical can quickly adjust to utilize a similar chemical," Kaufman explained. Certain pesticides can also trigger this adaptation in soil microorganisms without being utilized themselves.

Steady Food

Kaufman suspects that because many of these chemicals are formulated as slow-release granules they provide the microorganisms with a slow, steady "food" supply to keep their inflated populations going. In addition, the systemic pesticides, which become tied up in plant tissue, are released as the plants decompose.

Other major classes of pesticides which do not have these same structural similarities do not, as yet, appear to be affected by this phenomenon, Kaufman said. However, he pointed out that some farmers who have switched to continuous use of these chemicals are also beginning to have efficacy problems.

Ultimately, manufacturers may have to change pesticide chemistry, but it will be years before unrelated products are on the market. For the present, Kaufman said, farmers can prevent or at least delay the loss of pest control by rotating both crops and pesticides. Further, they should check their fields or use State Extension or private services to make sure they indeed have a pest problem serious enough to warrant applying pesticides.

Hungry Microbes

While the loss of control, in some

instances, is due to the pests acquiring resistance, Kaufman and others are convinced that soil microbes are magnifying the problem by dismantling these pesticides well before their time. He has studied numerous "problem" and "nonproblem" soil samples and found that populations of known pesticide-degrading microbes are higher in problem soils — sometimes several times higher. Nonproblem soils were identical to problem soils except that they had no

(Turn to Page A39)

COMMON CHARACTERISTICS IN FARM CHEMICALS

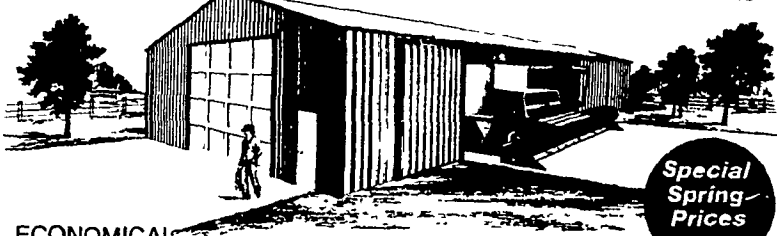
The list below: 1) gives the classes of pesticides and fertilizer having similar structures; 2) indicates through chemical notation and portion of the molecules with structural similarity; and 3) lists the uses for each class of chemicals.

CHEMICAL CLASS*	STRUCTURAL SIMILARITY	USE
	O	
methylcarbamate	N-C-O	insecticides
	O	
thiocarbamate	N-C-S	herbicides
	S	
dithiocarbamate	N-C-S	herbicides fungicides
	O	
acylanilide		herbicides
acetamide	N-C-C	fungicides
	O	
urea	N-C-N	fertilizer herbicides

* Generally listed on pesticide container after active ingredient.

Sharon's "NEW" All-Steel Farm Buildings

THE AG-LINE 25 SERIES



- ◆ ECONOMICAL
- ◆ ALL-STEEL
- ◆ CLEAR-SPAN
- ◆ WIDE DOORS
- ◆ GRAIN STORAGE

Advised buildings not equipped as shown. Prices FOB West Middlesex, PA.



40' x 50' x 14' \$6,445⁰⁰
40' x 75' x 14' \$8,895⁰⁰

JACK McMULLEN

1500 State St.
Camp Hill, PA 17011
(717) 761-1863

REMEMBER

BARGAIN HUNTERS SPECIAL

CASH & CARRY DISCOUNT SALE

On New & Used Tractors and Machinery

Ends May 31, 1983

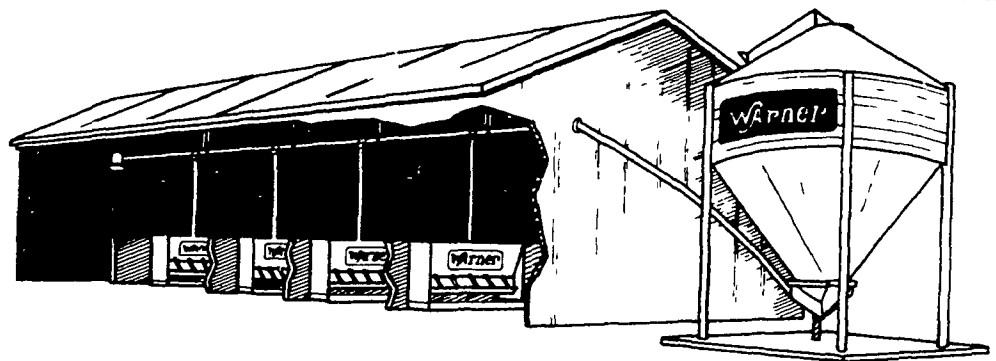
Check your May 14th issue
(Pg. C21-26) For Details

BINKLEY & HURST BROS., INC.

133 Rothsville Station Rd.
Lititz, PA 17543

PH: (717) 626-4705

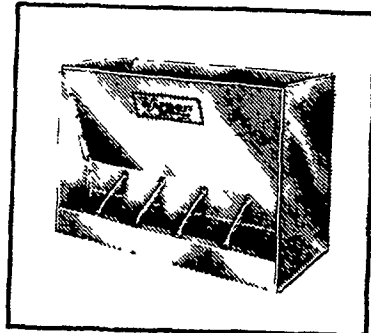
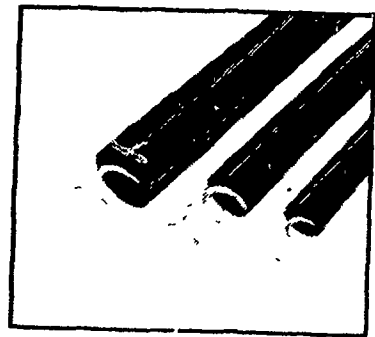
Bus Hrs. Mon-Fri 7 A.M.-5 P.M. Sat. 7 A.M.-11:30 P.M.



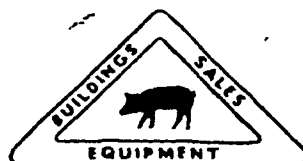
Flex-Flo delivers feed and savings

Cut your livestock feeding costs with Warner's custom engineered Flex-Flo feed delivery systems. Flex-Flo automatically delivers from 1000-6000 pounds per hour of clean, dry feed up to 300 feet from the bin. The specially formulated corrosion-proof PVC tubing provides maximum flexibility and quiet, rust-free operation.

A Flex-Flo system that meets your operation's needs can be engineered using Warner's array of modular components, all designed for convenient assembly and long life. To find out more about how Flex-Flo systems can deliver bigger profits for you, call or write today.



TRI-COUNTY



SWINE SYSTEMS

Warner

608 E. Evergreen Road
Lebanon, PA
Phone (717) 274-3488