

# Phosphorus Conference Provides Forum For Understanding

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concern over the use of commercial fertilizers.

Subsequent research and advice to farmers was to soil test and then use standardized book manure-nutrient values and application rates to substitute manure for a portion of the commercial nutrients being applied to raise crops.

Previously, the manure was being spread, but not effectively used. In many cases it was applied to the nearest field, whether it needed it or not.

Further, even with today's manure testing, soil testing and time-specified applications based on crop yields and rotations, real world conditions can prevent timely applications or ability to spread upon an intended field.

The research on effectively using the nutrients available in manures was seen as a way to help farmers save money and stay in business while at the same time ameliorating a growing public environmental concern.

Under former Gov. Robert Casey, Pennsylvania committed itself to a 40-percent reduction in the flow of nutrients down the Susquehanna River into the Chesapeake Bay.

While efforts were begun to upgrade declining waste water facilities and to deny on lot septic systems, and construct larger capacity and new waste water treatment plants, more needed to be done, according to those supporting and leading the effort.

A little later, the poultry and swine industries rapidly changed over to almost being entirely "integrated" businesses — previously independent, small scale producers went out of business or converted to contract production on a larger scale in coordination with feed companies and/or slaughter and meat packing businesses.

Under the integrated system, while the producers benefitted from establishing a guaranteed income, as long as a contract was not broken, production houses increased in number and size relative to the size of the farms on which they were sited.

In the poultry business for example, the contractual business arrangements normally provide birds and feed to the farmer who supplies the raising facilities, with loans to build such facilities secured on the basis of the contract and life expectancy of the building.

The farmer receives a set amount of income per live bird.

What the farmer is also left with is the poultry manure, or litter (litter contains more than manure, such as feathers).

This is important, because now the farmer is being told to dispose of the manure properly, and not to put too much on the land.

And, according to one of the speakers of the conference, Dr. Les Lanyon, a Penn State University research and extension professor of soil fertility, it isn't the farmer's fault that there is too much phosphorus on his farm.

sphorus on his farm.

Lanyon said that, especially since World War II, humans have become too good at having adequate phosphorus.

He said the system of agricultural production has changed dramatically and it is a global system, though the local farm is still seen parochially as an independent entity.

It has been coming for some time.

Nationally, a fast pace of protective or aggressive business mergers followed a relatively short, but widely affecting period of hostile takeovers.

That trend of mergers and consolidations spread into American mainstream agricultural production, especially after the 1996 Farm Bill.

Since production support prices were set to be eliminated, it became apparent that mergers, and technology allowing larger scale production and smaller scale administration, would be a solution to the overall reduced profits expected per commodity unit in order to position for national competition.

A longer term trend of mergers among farmer cooperatives had been occurring, but mostly from diminishing numbers of farmers, a result of many other factors, in addition to low profit margins.

In reaction to business mergers and other service industry mergers, the global direct ordering of perishable and non-perishable

goods and services now available through the computer and the Internet (such as happened with the Dairy Herd Improvement Association), producer cooperatives began a quickly accelerated merging and consolidation process.

For other industries, integration allows for essentially setting a future price on a commodity and then working with less volatile cost fluctuations than what has become a sharp rise and fall in the non-government influenced market pricing system.

What that all has to do with agricultural phosphorus and the nutrient balance of the Chesapeake Bay may not be readily apparent from a local and non-historic perspective.

But Lanyon explained the dramatic changes that have happened in global and continental nutrient flow.

The bottom line of Lanyon's talk was that whereas the world was phosphorus poor prior to the World Wars, especially since World War II man has been able to get lots of it.

We have mined it from sediment loads made up to 250 million years ago, adding significantly to the existing amount of phosphorus that is now cycling in the world's ecosystems.

According to speakers, a lot of effort and money went into securing phosphorus for increased crop production and higher yields.

Lanyon said that, prior to the World War technology that allows greater production and availability of phosphorus for farming, the his-

tory of the world was that it sought out phosphorus where ever it was to be found — the United Kingdom had dug up the bones of the dead from wars in Europe to use for fertilizer, and common here more recently were fertilizer companies in the United States, such as in Lancaster County and Berks County, that converted animal bones and blood into phosphorus fertilizer.

In the United States, the originally fertile fields lost phosphorus to heavy erosion and continual removal of the nutrients in crops raised and sold, or fed to animals and then sold. Effectively exporting the nutrients.

The soil needed to be replenished with nutrients.

Manure was returned to the soil to help replenish the nutrients in a farm's soils, but the manure did not contain enough nutrients to keep up with the demands of crops.

Lanyon called that period of freely available phosphorus for farming as the exploitive years. Following those were years without enough phosphorus.

Further, Lanyon explained that while the nutrient flow on a farm was slightly imbalanced toward a deficit, it was more or less a balanced ecosystem unto itself — the flow of nutrients could be followed and accounted for in a cycle.

With farm specialization and integration and transportation, now, the system brings phosphorus from various parts of the world to grain and feed crop growing areas.

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## Meetings For Delmarva Horse Owners Set


DOVER (Del.) — In response to requests from concerned local horse owners, Dr. Bete Valentine, Department of Pathology, College of Veterinary Medicine, Cornell University, Ithaca, N.Y., will speak on the symptoms of EPSM, a muscle disease in horses, tell how common it is in various horse breeds and share their research regarding a cure.

This meeting will begin at 7:30 p.m., Friday, April 24, at the Modern Maturity Center, Rt. 8, Dover, Delaware, in the Longwood Room, (use back entrance from parking lot), and is free. All interested persons are welcome.

Dr. Valentine is donating her time, to come inform local horse owners of her findings, at the invitation of the Delmarva Driving Club and The Delaware Equine Council.


She will also be speaking at the Farm Plow and Field Day, on the Miller farm, 962 Dennys Rd., Dover, Del., Saturday, April 25 at 10 a.m. and 2 p.m. Working the ground with horses will begin at 7 a.m. until 3 p.m.

For more information, call Organizer Ed Banning at (302) 628-0100 or 337-3900.



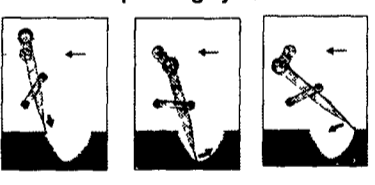
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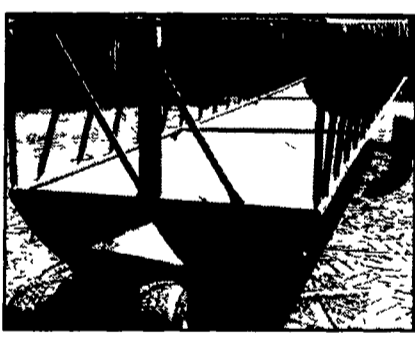
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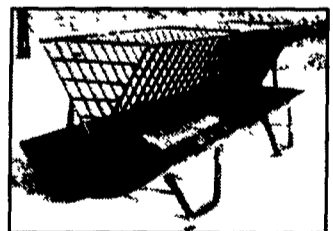
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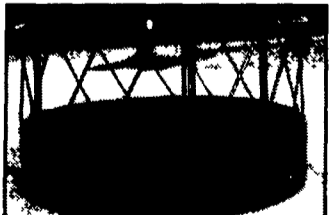
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