

# Agronomy-Industry Field Day Debuts

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Editor

**LANDISVILLE** (Lancaster Co.) — Beware of spent hoof bath material and "black corn."

That was the take-home message for those who use copper sulfate hoof baths and then spread the spent material along with slurry on fields.

"At what levels would (copper levels) be toxic?" noted Richard C. Stehouwer, associate professor of environmental soil science and extension specialist, Department of Crop and Soil Sciences at Penn State. It varies from soil to soil and crop to crop. "There are no definitive answers."

Copper is toxic to harmful bacteria and is used in the hoof baths to control heel warts in cattle.



**Richard C. Stehouwer, soil scientist and extension specialist, speaks about the concerns over spent hoof bath copper buildup.**

But not only can the copper prove toxic to some crops in high enough doses, but can be detrimental to livestock as well.

"Black corn" refers to the silage corn that receives a dose of the slurry. Penn State saw in at least one example a concern that has them examining the issue.

More than 200 farmers, agencies, and agri-industry people were part of the first Penn State-sponsored Agronomy-Industry Field Day at the Penn State Southeast Research and Extension Center Wednesday in Landisville. The field day replaces the old "weed day" for seed sales representative traditionally at the site.

Penn State is looking toward showing ways in which growing crops correctly in the right type of system impacts animal growth and overall health.

In soil matter, copper adheres to soil organic matter and clays. The material can prove toxic to some crops, especially in high enough doses. More likely, cattle fed from crops with high doses could also be subject to toxicity.

Three farms using hoof bath waste mixed in with manure near State College were examined. The manure was spread on fields. Soil tests were conducted. Two of the field soil tests revealed no elevated soil copper levels. But one farm clearly had about two to three times as much total copper as needed, noted Stehouwer.

But upon sampling the corn plants, the crop "looked beautiful," he said.

When the researchers looked at black corn, Stehouwer noted that clean corn registered about 5 parts per million (ppm) of copper. Black corn soared to 102 ppm. Washed corn, noted Ste-

houwer, registered a drop to 30 ppm.

Black corn really has the potential for increasing copper in livestock ration, Stehouwer noted.

The solution to copper management: test the soil and make sure to take plant tissue samples. The copper is absorbed into the animal's liver and could create toxicity problems.

Some people believe zinc baths would be an alternative, but it's just another metal that can prove toxic at high enough concentrations, noted Stehouwer.

Also at the field day, Doug Beegle, professor of agronomy and extension soil fertility specialist, Department of Crop and Soil Sciences, noted that starter fertilizers can produce improved growth response. Comparing 10-30-10 and ammonium sulfate starters provided no yield difference, however.

But on high phosphorus testing soils, out of five times, using ammonium sulfate starter pro-



**A crowd listens attentively during fair weather to Doug Beegle talk about starter fertilizer benefits during the first Agronomy-Industry Field Day near Landisville.**

vided a 21 percent increase in total yield. "Will the response pay for the other four times there is no response?" noted Beegle. However you look at it, there is, Beegle said, "little correlation between early growth response and yield response."

Penn State still strongly recommends starter fertilizer on low-testing soils.

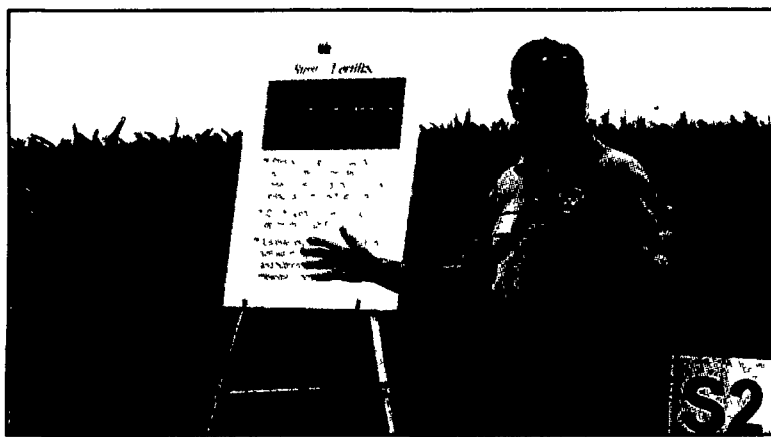
Other speakers included Sjoerd W. Duiker, assistant professor of soil management and extension specialist, Department of Crop and Soil Sciences, who noted that only 8 percent of the planted acres in Lancaster County are in no-till. There were demonstrations of zone and strip tillage at the field day.

Dave Johnson, manager of the research station, takes over for John Yocum, who retired this year after 41 years of service to Penn State.

Johnson noted Yocum "worked here for 41 years. I'm 41 years old. I have a lot to learn, John. I have big shoes to fill."

Johnson noted that while Yocum was an expert on tobacco, "I know next to nothing on tobacco," Johnson said to those who attended.

Other aspects of the tour, including the latest research information on forage and grain crop production from the field day, is scheduled in *Lancaster Farming* special sections, including the September issue of *Foraging Around* and the October issue of *Corn Talk*.



**Doug Beegle, soil fertility specialist, examines the benefits of starter fertilizer. Note how tall the corn is during a relatively good growing season.**

## AccuWeather® 7-Day Forecast for Lancaster and Surrounding Areas

AccuWeather.com

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Intervals of clouds and sunshine.	Clouds and sun with a shower possible.	Sunshine and some clouds.	Warm with partial sun, chance for a t-storm in the p.m.	Warm with sunshine and a few clouds.	Partial sun, warm and humid with a thunderstorm possible	Sunny to partly cloudy and warm
High 82, Low 60 UV: 7	High 80, Low 58 UV: 7	High 84, Low 64 UV: 8	High 88, Low 66 UV: 6	High 88, Low 64 UV: 9	High 88, Low 64 UV: 6	High 86, Low 56 UV: 8

The local 7-Day Forecast is for Lancaster County. The ultraviolet index is a guide to exposure to the sun. The higher the UV Index number, the greater the need for eye and skin protection. 0-2, minimal; 3-4, low; 5-6, moderate; 7-9, high; 10 or above, very high.

### The Week Ahead

#### Temperatures



Above Normal

Near Normal

Below Normal

#### Almanac

For the week ending Wednesday, Jul 9

**Temperature**  
High ..... 87  
Low ..... 68  
Normal high for week ahead ..... 85  
Normal low for week ahead ..... 64

**Precipitation**  
Total last week ..... 0.27"  
Month to date ..... 0.27"  
Normal month to date ..... 1.30"  
Year to date ..... 21.96"  
Last year to date ..... 18.95"  
Normal year to date ..... 22.27"

#### Growing Degree Days

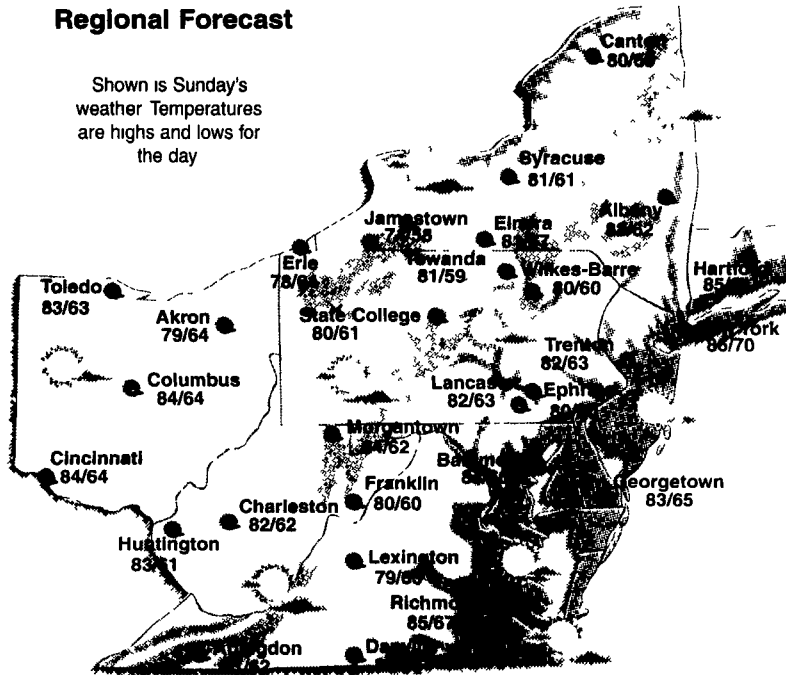
Month to date ..... 241  
Season to date ..... 1141

#### Farming Forecast

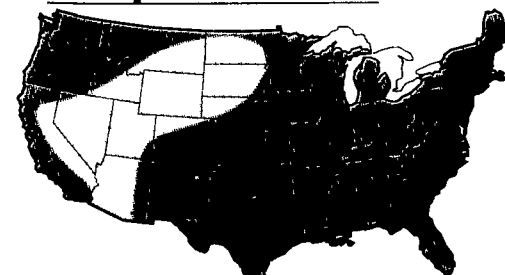
An upper-level trough will keep it unstable both Sunday and Monday, and a shower or thundershower can develop and move across the area. A thunderstorm can bring a quick 0.50 of an inch of rain to some spots. Average humidity will be 50-65 percent. A cool front will arrive by midweek with the chance for a thunderstorm later Wednesday or Wednesday night. Temperatures will average near normal.

#### Regional Forecast

Shown is Sunday's weather. Temperatures are highs and lows for the day.



#### Precipitation



Above Normal

Near Normal

Below Normal

#### Last Week's Precipitation Lancaster

July 03	trace
July 04	trace
July 05	0.14"
July 06	0.05"
July 07	0.04"
July 08	0.00"
July 09	0.04"

#### 30-Day Temperature Outlook



Above Normal

Near Normal

Below Normal

#### 30-Day Precipitation Outlook



Above Normal

Near Normal

Below Normal