

# Capitol Region Agronomy Team Report



**Mark Goodson**  
Penn State Crops Agent  
York County

ways manage crops with a close eye on soil fertility and soil test recommendations for optimum yield.

Precision agriculture in crop production means adhering to strict standards when applying crop inputs. Farmers should al-

With the many crops grown in our Pennsylvania rotations, it's important that farmers use sound

management when applying fertilizer nutrients. This article will point out a few tips to keep in mind while managing specific crops for optimum yields. These recommendations are taken from the latest Penn State Agronomy Guide available online and from your county Cooperative Extension office.

Soil testing is the best method of determining soil fertility status and is the basis for developing a sound soil fertility program. Soil kits can be purchased from county Penn State Cooperative Extension offices and also from your full service fertilizer dealer. Carefully follow instructions for collecting and handling the sample. The soil test report you receive from the testing lab will include specific recommendations for adding fertilizer to optimize crop yields. Pay close attention to the recommendations and don't over apply.

Often the most accurate and economical way to apply plant nutrients is commercial fertilizers. This is because commercial fertilizers can be blended or used as components to provide the precise rate of nutrient required to optimize crop yields without over applying nutrients. They are also easy to handle and can be applied in-season as topdress or sidedress applications.

Soybeans that are properly inoculated with nitrogen-fixing bacteria rarely respond to nitrogen fertilization. If the previous year's crop was not soybeans, inoculate with fresh, viable nitrogen-fixing bacteria immediately before planting. Recent research results indicate a 70 percent

chance for a two bushel per acre increase when inoculating seed planted into fields growing soybeans every other year. With that said, it is important that P and K be available in sufficient amounts to optimize soybean yields. In a rotation, soybeans can make use of fertilizer applied to the previous crop. When double cropping, add the P and K to the barley. Maintain soil pH between 6.0 and 6.5. If pH is below 6.0 and is not to be corrected with lime, apply molybdenum as a seed treatment at planting. This helps to ensure proper N fixation.

Corn responds well to properly timed applications of fertilizer. The term "starter fertilizer" refers to a practice, not a material. Starter fertilizer is placed strategically near seed so that it is readily available. This practice improves early seedling growth during cool growing conditions and can help produce earlier-maturing and higher-yielding crops. A good starter contains a high percentage of P; for example, N-P-K ratios of 1-2-1, 1-3-1, 1-4-2, or 1-5-0 are common.

MAP is preferred over DAP as a starter fertilizer ingredient. Both liquid and dry fertilizer materials perform well. Corn P requirements can be met by banding phosphate fertilizers in the starter. Do not allow the N plus K in the starter to exceed 60 to 70 total pounds per acre. Your Certified Crop Advisor or local fertilizer dealer can help you make the right recommendation for your soil nutrient status based on your soil test results.

Corn is a heavy N feeder. For a 125-bushel per acre yield goal, 130 pounds of N is recommended. A 21-ton per acre silage yield requires 150 pounds of N. For corn following a legume in a rotation, reduce the N recommendation according to the Agronomy Guide to credit residual N. For more efficient N utilization,

apply 50-90 percent of the N when corn is 10-20 inches tall. This can be done by side-dressing with commercial fertilizer.

Cool season grasses also require a lot of N. A four-ton per acre yield of orchardgrass, bromegrass, timothy, or reed canarygrass requires 160 pounds of N. It's important that this N is applied in split applications, as the grass needs it. Three applications before each cutting: spring, early summer (with P and K) and early fall. Commercial N is particularly well suited to spoon-feeding grass hay crops because it is easy to calibrate and does not put on excessive P or K that could be of concern to livestock producers and the environment. Base the amount applied at each application time on the expected yield for the next cutting.

Alfalfa production also requires spoon-feeding throughout the growing season. As a heavy feeder of K, it's important that farmers carefully and fully fertilize for that nutrient. Alfalfa yields of five tons per acre require 250 pounds of fertilizer K. High levels of P and K must be maintained in the soil for high crop yields. High alfalfa yields can deplete plant nutrients in the soil rapidly. For top production, annual soil testing is recommended. When the soil test indicates the need for fertilizer, topdress after first and/or last cutting. Split applications, half in the fall and half after first cutting, may result in more efficient use of fertilizer, especially K. Recent research suggests that, based on nutrient removal, a 0-1-4 ratio of N-P-K is best when high yields are anticipated.

Fine-tuning your soil fertility program requires timely and precise applications of commercial fertilizer and manure, if available. It's important to sharpen your pencil and do your management homework with a recent soil test, the Agronomy Guide and a competent crop advisor to obtain optimum yields.

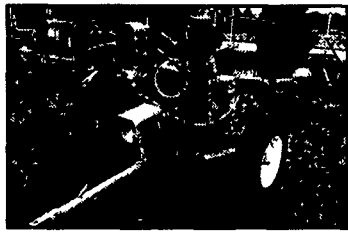
In this article, P is used to refer to fertilizer P2O5 and K is used to refer to fertilizer K2O.

## LIQUID WASTE EQUIPMENT SPECIALISTS

New For Sale From **HOULE**



42', 6" Lagoon Pump,  
New,  
Call



Houle 28" Maxi-Pump,  
w/Hydraulic Primer,  
Call For Pricing

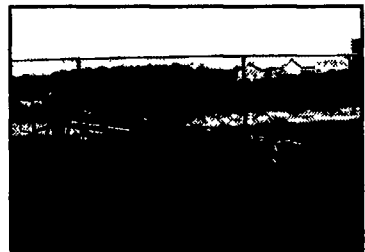
- USED EQUIPMENT -

### Just Arrived Next To New

- \* Houle 5250
- \* Houle 6300



4000 Gal. Husky,  
23.1x26 tires. Good shape,  
Call For Pricing



Houle 8', 4" High  
Pressure Pump,  
w/25 HP Motor • \$3,500



Houle Manure  
Irrigation Pump,  
CALL



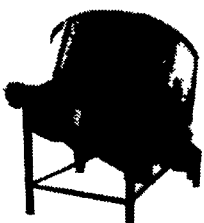
New Val Metal,  
11hp, bedding chopper,  
\$2,200



New Houle 32' Lagoon  
Agi-Pump,  
CALL

Feed Equipment from

**VALMETAL**



**BALE MASTER**  
Stationary Bale Chopper,  
Chops round or square,  
small or large bales for  
TMR Mixers



**AGRI-CHOPPER**  
Round Bale Chopper

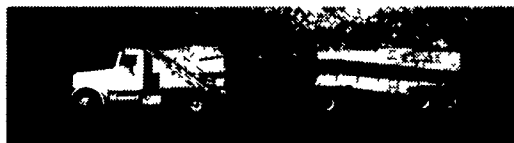
Hammermill • T.M.R. Auger Mixers • Batch Mixer

MID-ATLANTIC  
**agrisystems**

800-222-2948 • 717-529-2782  
4019 Ashville Rd. • Quarryville, PA 17566  
www.midatlanticagri.com

### CONESTOGA VALLEY LIME SPREADING

HI-MAG Agriculture Lime Spreading HI-CAL



Cash Discount Savings on Delivery  
Call Toll Free day and evening  
1•800•724•3277

Serving PA, MD, Delmarva, NJ, NY & (LI)

**CONESTOGA**  
WATER WAGON  
"The Freshest Water on the Trail"  
Pools • Power Washing • Wells • Cisterns  
Stainless Steel Water Truck Rentals  
24 hours a day • 8 days a week  
**Conestoga Water Wagon**  
P.O. Box 31  
Conestoga, PA 17516  
**717/629-2756**

## FFA at 75

One Mission: Student Success

Shirk Receives Degree

Jason Shirk of Lebanon has received his American Farmer Degree from the FFA at its annual convention recently in Louisville, Ky.

The American Farmer Degree is the highest level of membership awarded by the FFA. Earning this award requires a great deal of effort and determination for the recipient.

Shirk is a member of the Cedar Crest FFA Chapter and is employed by Wengers of Myerstown as a member of the farm tractor parts sales team.

## Incredible Prices !!!

UP TO  
**60% OFF**

**SUPER HEAVY STEEL**

- Equipment Storage!
- Workshops!

**FAST AND SIMPLE TO ERECT!!**  
**NO CRANE NEEDED!!**

AVAILABLE MODELS

- 30 x 50 (2 LEFT)
- 40 x 64 (3 LEFT)
- 45 x 80 (2 LEFT)
- 52 x 100 (1 LEFT)
- 55 x 120 (2 LEFT)



EXCELLENT FOR HAY  
AND GRAIN STORAGE



**800/825-5059**