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**Issues 2010: Hamilton Agronomist Shares Advice**

It's a new year, with new hopes, goals and market conditions ahead. Looking into 2010, Hamilton Agronomist Matt Lyons identified three top tier management issues for specialty crop producers:

**GAP Program.** It's important to communicate with buyers, understand and meet their requirements. All fresh market buyers now require GAP (Good Agricultural Practices) Certification, and Lyons has successfully helped several through the certification process. "I tell them what to do as far as postings, and walk them through the whole program. They get an inspection and get certification." Last year, a couple of processors offered a premium for GAP certified applies, so the paperwork can certainly pay, noted Lyons.



**Monitor Fertilizer Market.** Lyons suggests watching fertilizer prices closely. Price volatility has calmed a bit, but Lyons expects the market to remain touchy. And outlays, to some degree, must be balanced with anticipated pricing for produce, he said.

**Focus on Quality.** Looking ahead at produce pricing prospects, Lyons suggested growers keep their focus on quality, particularly as decisions are made in pruning and trimming. Said Lyons, "It's better to have a good quality crop...than to have an extremely large crop. In a year where there is abundance of produce, people with the best fruit are going to sell their fruit."

**Wine Evaluation Workshop February 2**

Grape growers and vintners can take advantage of a joint effort of the Michigan Grape Society and Michigan State University Extension. A Wine Evaluation Workshop is planned for February 2, 2010, at the Southwest Michigan Research and Extension Center. The workshop will include a series of educational tastings. Additional information is available at:  
<http://www.grapes.msu.edu/pdf/wineEval2010.pdf>.

**Spring Fertilizer Applications Safeguard Nitrogen, Crop**

Just-right conditions are a must for fall application of anhydrous nitrogen (N). If fall's damp conditions and extended harvest ruined your plans for fall application, it may ultimately work in your favor. While spring application will add to planting season workload, it will likely provide better conditions for a controlled and effective application, University sources say. You're less likely to lose N, more likely to avoid crop injury from escape of fall-applied N, and less likely to compact soils, which presumably will have dried a bit by Spring. Spring application of Phosphorus (P) and Potassium (K) also are feasible through band and broadcast application. Apply P and K away from the plant row to minimize salt injury. The best case scenario, of course, is that current fertility is adequate through next fall. Test your soils as soon as possible, and consult with your Hamilton Agronomist to devise a fertility management plan.

## Replenish Nutrients Lost to Corn Stover

If you've harvested corn stover, consider the nutritive value of that harvest when you next fertilize the field. Dry stover produced is roughly equivalent to the weight of grain at 15 percent moisture. So, a 150 bushel corn crop leaves about 4 tons of stover behind. During collection, 60 percent success is typical, amounting to about 2.5 tons per acre. Each ton contains nutrition equivalent to about 3.6 pounds of P2O5, and 20 pounds of K2O. A rough value estimate of nutrients lost comes to \$44 per acre, or \$18 per ton of stover removed. When considering stover harvest, consider, too, additive soil compaction and lost organic matter—which helps battle compaction. If nothing else, replace lost nutrients, experts advise.



## Consider OBLR Now

Prepare now for the oblique-banded leaf roller (OBLR), said Hamilton Agronomist Kevin Herman. The pest can mean trouble for apples, blueberries and pears. It overwinters in bark and crevasses as tiny larva, emerging ready-to-go first thing in the spring. "We're very concerned about this pest," Herman said. "If you've had trouble with them in the past, we do recommend treatment during dormancy to help knock their numbers down."



## Brush Up on Apple Scouting Skills

Feeling rusty in your disease and pest identification skills? Hamilton Agronomist Kevin Herman notes growers can find disease information and helpful photographs in materials offered by Michigan State University (MSU). For instance, MSU Extension provides a quick and easy way to brush up on your skills via *A Practical Guide to Scouting Apple Orchards*. It's available to growers for \$29.95, and can be ordered from MSU Extension online. Visit their website, then search for DVD273. The 90-minute DVD contains 21 modules covering topics from degree days and weather monitoring to common pests and diseases of apples. If you prefer to sharpen your

skills via reading, request the apple pocket scouting guide, extension bulletin E2720.

## 2009 Ruts, Compaction to Haunt 2010 Crops

For many, field ruts were a reality of the 2009 harvest season, no matter the measures taken to avoid them. Growers this spring will deal with multiple effects of harvesting on moist soils. Ironically, while ugly ruts are troublesome, non-rutted field zones may have suffered greater damage to soil structure. Entrances likely have suffered the most.

Compaction diminishes soil spaces that allow moisture and nutrients to move freely into the plant. Though composition can vary greatly, healthy soil might be one-quarter water pore space and another quarter air pore space. With reduced pore space from compaction, seeds have less access to moisture and water for germination. Plant uptake of water and nutrients is slowed as root growth is constricted by soil density. What's more, tillage of compacted soils requires increased speeds and energy consumption.

Shallow compaction (0 to 10 inches), caused by equipment designed to spread pressure, is easier to address—usually through deep tillage. That won't fix deeper compaction. Your best hope is to encourage root growth by reducing other plant stressors, and giving plants any possible jump-start for root growth.



## EPA's New Fumigant Restrictions Take Effect in 2010

New Environmental Protection Agency (EPA) restrictions regarding the use of fumigant pesticides take effect during the 2010 growing season. These fumigants--pesticides that are injected or incorporated into the soil--form a gas which effectively controls many soil-borne pests. However, argues EPA, the gas can escape, affecting the health and safety of agricultural workers and others in the area. Public comment on the proposed restrictions began in July 2008, and was followed by numerous public meetings.

Some of the new safety measures include creating buffer zones, enforcing posting requirements, adding measures to protect agricultural workers and strengthening training programs, among other practices. For additional information, visit: [http://www.epa.gov/oppsrrd1/reregistration/soil\\_fumigants/](http://www.epa.gov/oppsrrd1/reregistration/soil_fumigants/).

Fumigants are a useful protective tool for crops including potatoes, tomatoes, strawberries and peppers. Chemistries affected by the new rules include methyl bromide, chloropicrin, dazomet, metam sodium, metam potassium and iodomethane.



### Monitor Fruit Trees for San Jose Scale

San Jose Scale is beginning to show up in some area orchards, reports Hamilton Agronomist Kevin Herman. "It's a pest we need to watch and be aware of, because it's potentially so damaging. It's also tough to pick out because the scale looks very much like the plant's breathing cells," Herman said. An important pest in pears, apples, plums and peaches, San Jose Scale often goes unnoticed in the early stages of infection. It overwinters as immature scales. Small, gnat-like males emerge in spring to mate with wingless females. Females give birth to live crawlers, usually about a month after males fly. The crawlers affix to limbs, secrete a protective wax coating, and wait to repeat the cycle. The key problem: the sucking insect injects toxins into the plant as it feeds. In apples near harvest, feeding generates reddish blemishes. Your Hamilton Agronomist can help monitor for San Jose Scale, and recommend treatment should the pest emerge in your crop.



### Calculating Corn Nitrogen (N)? Bank on Soybean N Credit

University researchers continue to dig for better understanding of processes behind the "soybean N credit," even as they confirm it is real. Early in the 2000s, researchers at the University of Illinois pointed to soybeans' impact on "soil nitrogen mineralization"—the breakdown of organic to inorganic Nitrogen by microorganisms in the soil. That study found the highest soil Nitrogen mineralization with nodulated versus non-nodulated soybeans.

One University of Illinois biochemist noted at the time, "The study verifies the basis for the soybean nitrogen credit, and for those farmers who still don't credit soybeans, it should provide more proof that they could profit by doing so."

More recent research conducted in Wisconsin again looked at why N is higher following soybean growth. This study found N benefits following both nodulated and non-nodulated soybean. Except for in corn following corn, 80 pound N per acre was found to support optimum yield. When either nodulated or non-nodulated soybeans preceded corn, yield increased by about 45 bushel/acre if a soybean crop. Application of fertilizer N increased yield in all three cropping situations.

Scientists still don't have all the answers as to why the soybean N credit occurs, but there's more evidence than ever that it exists. In the Midwest, Nitrogen fertilizer rates can--and should--be adjusted downward 40 to 45 pounds per acre for corn after soybean.



### Consult EPA Bulletin Regarding Intrepid Application

Area growers of everything from corn and soybeans to vegetables, stone fruit and grapes need to remember to closely monitor their use of Intrepid (methoxyfenozide). The Environmental Protection Agency (EPA) last year issued an endangered species bulletin for the insecticide, in order to protect the Karner blue butterfly in several Michigan counties. The butterfly is endangered, meaning populations are very low and the species could be lost at any time. Its larvae feed exclusively on wild lupine, which grows in oak and oak-pine barrens and sand prairie. An insect growth regulator, Intrepid selectively kills caterpillars including armyworm and loopers, which explains why there is concern spraying it near Karner blue butterfly habitat. For details on where and when Intrepid use is restricted, visit EPA's *Bulletins Live!* system at: <http://www.epa.gov/espp/bulletins.htm>. Bulletins can be searched by county and product application date.

### Reduce Apple Scab Spore Load for Treatment Savings

Apple scab is overwintering in a number of area orchards, notes Hamilton Agronomist Kevin Herman, and its treatment this year will be more complex. To help battle strobilurin resistance, Hamilton will be limiting use of the fungicides for apple scab. "We're still going to have strobilurins for powdery mildew control, but we won't look at them as our primary tool for scab," Herman explained. "We'll rely more on EDBCs, Captan and older chemistries."

Herman suggests growers get a head-start on control, reducing inoculum load and in particular eliminating "pseudothecium," the fungi's fruiting body and primary source of ascospores and inoculum. Said Herman, "Mow, flip the leaves over and just rough up that apothecia. Do anything you can to break it down and disrupt it." It's worth the trouble. University sources say spore-reduction strategies can drop spore loads by 50 to 80 percent, and that's like leaving money in your pocket.

## Vertical Tillage Can Anchor Harvest-Damaged Topsoil

Vertical tillage may help area producers address shallow types of field damage sustained during the wet harvest. Also called "mulch till," the technique has several potential benefits. Vertical tillage equipment lightly tills soil and residue, thus mixing residue and the top few inches of soil, but leaving most residue near the surface. The result: residue helps anchor soil near the surface. Ultimately, the action can help water better penetrate the surface, and speed residue decomposition. You'll need special equipment, whose design varies among companies. Take care to avoid vertical tillage prior to a rain, which will simply again compact the newly-tilled soil.

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## Safeguard Stored Grain Through Close Monitoring

This winter, grain producers face grain storage conditions not often seen. Wet grain and cold temperatures mean growers must monitor stored grain closely, watching for signs of heating. Many producers had no option but to store grain at higher than desirable moisture levels, yet temperatures may be too cold for constant aeration fan use. Consider this advice in identifying plans for continued successful storage:

- Test moisture content in the bin frequently. If moisture tests below 18 percent and grain temperature is at or below 40 degrees, operate the fan intermittently. Meanwhile, monitor the bin closely for any signs of heating.
- If moisture tests above 16 percent, monitor temperature using a grain thermometer. Place the probe in several spots near walls, and a few spots near the bin's center. Remember to allow the thermometer sufficient time to adjust to each new probe location prior to recording the temperature.
- If you suspect heating in any portion of the stored grain, begin running the aeration fan. Aeration also is indicated if you find a difference of more than 5 to 8 degrees between any two spots within the bin.
- Additional signs your stored grain is at risk may be more obvious. Upon opening the bin, be alert for warmer-than-expected air, moldy or unpleasant odors in the bin, or condensation on the bin roof on a cold day. Any of these signs should prompt you to begin aeration until conditions improve.



Additional advice and tips are available, as well as tables guiding storage conditions and appropriate grain care measures. To review in-depth information, visit: <http://www.extension.umn.edu/specializations/cropystems/M1080-FS.pdf>.



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