



Genetically Modified Or Not ...

... There Are Several ‘Best Management Practices’ That Both GM/Non-GM Producers Can Utilize

BY RITA BRHEL
P&D Correspondent

With the rise in consumer demand for foods made from non-genetically modified sources, producers have an opportunity to take a premium on crops that meet the standards for these specialty markets. However, whether producers choose to grow both genetically modified (GM) and non-GM crops on their farm, or their neighbor's GM crop is growing across the road from their non-GM field, there are some best management practices to keep in mind.

"Contamination may result from seed impurities, wind or insect-borne cross-pollination, volunteer or feral plants, and/or inadequate harvest and handling practices," said Jim Riddle, organic outreach coordinator for the University of Minnesota's Southwest Research and Outreach Center at Lamber-ton, Minn.

It's not only producers of non-GM crops who have a need to prevent cross-pollination — producers of GM crops are just as — more, in some ways — responsible to minimize genetic drift.

"Discussions are under way at the Federal level to establish some sort of GMO (genetically modified organism) compensation fund to cover losses incurred by non-GMO growers who experience losses caused by GMO contamination, but such a system is not yet in place," Riddle said. "Until such a system exists, clear communication, good neighbor-to-neighbor relations, and adoption of best management practices are the best mechanisms to minimize risks."

Here are 10 areas of crop production where GM and non-GM management practices matter:

1. Know the difference between GM and non-GM — GM crops include herbicide-resistant corn, soybeans, alfalfa, sugar beets, canola, and sugar beets; disease-resistant papaya; insecticidal corn, sweet corn, and cotton; and industrial crops, such as alpha-amylase corn for ethanol. Plus, "many crops are stacked to contain multiple traits of herbicide resistance and insecticidal proteins," Riddle said. The Non-GMO Sourcebook (www.nongmosourcebook.com/geneticallymodifiedcropsmarket.php) and the U.S. Department of Agriculture's Animal and Plant Health Inspection Service's Biotech Regulatory Services' database (www.aphis.usda.gov/biotechnology/status.shtml) can give producers detailed information about the GM crops around them.

2. Follow the regulations — GM growers need to be aware of and follow all regulations pertaining to GM crops. For example, farmers who plant certain Bt corn varieties are required to plant non-Bt corn refuges to help delay the development of resistance among target pests. While there are no similar regulations for non-GM crops, there are strict prohibitions

of using GM crops and inputs by organic growers, a subset of non-GM producers.

3. Learn how far pollen travels — Producers of GM crops need to read and understand licensing agreements issued by biotech seed suppliers, and then follow all instructions. In addition, Riddle said, producers need to know how far pollen is likely to travel, the isolation distance required, the types of tests used to determine the presence of any GM crops, and how to manage herbicide-resistant varieties to minimize weed resistance development through crop and herbicide resistance. "Make sure that GMO crops do not volunteer the following year, presenting additional risks of contamination. To avoid potential liability, clean up, and compensation issues, consider not growing promiscuous GMO crops in areas where contamination of organic and other non-GMO is likely," Riddle said. An easy way to avoid GM contamination is for non-GM producers to not plant crops that have GM counterparts nearby. So, if your area grows a lot of corn, consider non-GM soybeans. Any non-GM seeds should be verified with test results and "signed-off" as non-GM.

4. Plan your farm — Both GM and non-GM growers need to know their fields. All producers need to determine which fields are most and least likely to have the highest risk of creating or receiving GM contamination. Wind- or insect-pollinated crops, such as corn, should be planted in the most isolated fields depending on the prevailing wind direction. Windbreaks are an additional physical buffer that can be established to minimize GM pollen drift, Riddle said.

5. Get to know your neighbors — Contamination prevention between GM and non-GM crops, particularly when not grown on the same farm, relies on cooperation between neighboring farms. "For all growers, establish good lines of communication with your neighbors, especially those whose fields directly adjoin fields where GMO or non-GMO crops are to be planted," Riddle said. GM growers need to notify their neighbors, especially non-GM growers, of the location of GM crops and the steps being taken to minimize contamination. In the same way, non-GM growers need to let their

GM neighbors where their organic or other non-GM fields are located. To reduce misunderstandings, Riddle advises organic producers to post signs along field margins designating their non-GM fields. Both GM and non-GM growers should gather as much information as possible from neighbors, seed dealers, Extension educators, and input suppliers on the types of crops being grown in the farm's vicinity. GM growers should know which of their neighbors are growing organic or other non-GM crops, including Identity Preserved (IP) crops. Besides following planting instructions for GM seeds, producers may need to take additional, voluntary steps to reduce genetic contamination, such as altering planting dates and enlarging buffering zones or refuges, Riddle said. Non-GM growers should also be able to point out the GM fields in their area. Non-GM producers should try to plant their non-GM fields closest to a refuge surrounding a GM field. Non-GM producers should also consider adjusting planting dates so that non-GM pollination doesn't occur at the same time as GM pollination.

6. Clean your equipment and bins — Both GM and non-GM producers need to take care to use, calibrate, and clean their equipment, whether rented, borrowed, or owned, to prevent inadvertent cross-contamination through dust and grain. Producers of non-GMO crops should be sure to thoroughly clean and purge all equipment prior to use. Both non-GM and GM growers need to carefully inspect and clean storage units before using. GM and non-GM storage units should be well segregated. Additionally, trucks and trailers need to be inspected and cleaned before each use, including tarps. Riddle recommends the producers document their cleaning activities, which is important not only for producers to remember what's been done but also to verify that their GM crop did not contaminate another grower's non-GM crop.

7. Test right — Non-GM producers need to be sure to get crop samples taken before harvest for GM testing. "If contamination is likely, collect samples along a grid

pattern, going from areas with the highest risk to areas with low risk. Maintain and submit the samples separately in case only part, but not all, of the field is contaminated," Riddle said. Further GM testing needs to be done at all GM events, including stacked traits. For each test, duplicate crop samples help to reinforce test results.

8. Understand the market requirements — Both GM and non-GM producers need to know the standards that their crop needs to meet in order to be sold in their respective markets. Both GM and non-GM buyers may have varying expectations; there is no one-size-fits-all marketing option. Some buyers want crops segregated or sampled a certain way, Riddle said. GM growers should know whether their crops are likely to be exported to foreign markets and what the market-driven GM rejection levels are for each crop grown. Non-GM producers often have contracts with specific buyers, which spell out testing protocols, GM rejection levels, and what certifications are needed.

9. Keep detailed records — GM producers need to record where all GM fields are located, using field maps or GPS/GIS systems to show where they are in relation to non-GM fields. GM producers should document their efforts to minimize contamination, in case an allegation is made. Non-GM producers also must document their efforts to prevent contamination, which is required for organic certification, but is also helpful in identifying problems and determining liability or creating claims of losses. "Document all of your attempts to minimize contamination, along with your crop production, yield, and sales records. These records will be invaluable should you suffer harm and seek compensation for damages," Riddle said.

10. Determine your risk — GM growers should be clear on their risks and liability coverage. Non-GM growers need to explore their risks, especially when planting crops that have GM counterparts in their area, and to talk to their insurance agent about their policy coverage.

Commentary

Drought Woes Aided By Old Wives' Tales?

BY RITA BRHEL
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Waiting for rain, waiting for rain ... A week or so ago, on one of those overcast days, it actually did rain! I stood out on our porch and watched it rain, breathing in the missed smell of rain on the dirt. My kids danced in the rain — it had been so long!

We got 1.20 inches, but just down the road, they got nothing. Still, it's not having much of an effect on the drought. The trees are dropping their leaves, and the pasture grass is all but dead. It sure has me questioning whether or not to keep replacement breeding animals this year.

This was the year — the year I was going to expand the herd. And I still want to, but I know deep down inside, that wanting something doesn't mean it's the right thing to do. And I can just see myself in the dead of winter — a brown winter, mind you, because this drought is probably going to last a long time — using up all of our hay reserves even though we took great care this year not to overstock the pastures. Compared to most pastures around here, ours looks like it still has a lot of feed in it. And it does, but I don't know if it'll last through this next winter.

We had something awfully strange this summer, besides the drought. The biting flies were nasty. Oh, they always are, but this year, they literally ate holes in our animal's legs! I think the problem was that it was so hot

that the animals were spending all of their time in the shady spots of the field, and because there are only a few of these places, there were making little mud holes from the manure build-up, and that attracted the flies. But the flies made sores so bad that it was circles of a half dollar or bigger of raw flesh up and down the back legs. We've had the vet treat them twice with pour-on insecticide squirted directly on the legs, rather than the back, and then a petroleum jelly goop spread on the sores to keep the flies off so they'd heal. And even though the pastures have been kept as healthy as possible with reduced grazing, our livestock look gaunt because the flies just would not let them eat.

It was nice to get a break in the hot weather there for a few days, and I was disappointed to see the high 90s and triple digits come back to the area. And then I saw the storm track for Hurricane Isaac after it made landfall, and it fell just short of Nebraska. Summer. But now the weather forecast is calling for rain, perhaps, at the end of the week.

There is some speculation that the dry spell with break in time for winter, and that this winter may be snowy enough to make up for the missed rains. But, as my mother-in-law pointed out the other day, there haven't been any foggy days. As the old wives' tale goes, 90 days after a foggy day, there will be a snowstorm. By that account, we're in for one long, brown winter.

'Before The Snow Flies: Helping Cow/Calf Producers Prepare' Series Offered

BROOKINGS — The drought has left many South Dakota cattle producers with feed shortages as winter approaches. To help the state's cow/calf producers prepare for winter, SDSU Extension hosts "Before the Snow Flies Series: How Cow/Calf Producers can Prepare for Winter" in several South Dakota communities beginning Sept. 10.

"This past summer's drought has put ranchers into a difficult situation across the state. To stay in business, producers will need to figure out how much money they can spend this winter without compromising herd health and reproduction," said Robin Salverson, SDSU Extension Cow/Calf Field Specialist. "The upcoming informational meetings are designed to address the nutri-

tional, reproductive, and economic issues facing cow/calf producers this winter following a summer drought."

Topics covered in this series include: Managing and Evaluating Feed stuffs, Availability of Alternative Feedstuffs, Adjusting Feed for Reproductive Success for your Cow Herd and Economics During and After a Drought. The series will be led by SDSU Extension field specialists with expertise in cow/calf management and business management. The meeting will include a Q panel to address specific questions cattle producers may have.

A seminars will be held in Tripp on Sept. 13 at the livestock market beginning at 7 p.m. For more information, contact Lynn Gordon, 605-782-3290.

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