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A Farmer's Perspective on GMOs **Carole Bartolotto**

Howard Vlieger is not your typical GMO (genetically modified organism) critic. He's a third-generation family farmer, God-fearing Christian, conservative Tea Party Republican, and lives in northwest Iowa. What makes him extraordinary is that, despite all this, he is not afraid to counter the "promises and hype" promulgated to farmers by the biotech industry. Even more remarkable, he goes out of his way to share what he has found with any person or group that is willing to listen. He has a perspective that's different from your average consumer, health professional, scientist, or GMO opponent because he's out in the fields and farms experiencing things firsthand.

Vlieger considers himself a "student of the soil" and began using alternative farming methods in 1989 to produce crops that are nutritious and free of chemicals. In 1992 he started his crop advisory work to help farmers decrease their dependency on chemicals and move toward organic or biological farming methods.

His first direct experience with GMOs came in 1997 when he planted a test plot comparing BT (GMO) corn to the conventional version of the hybrid. The seed cost was more than \$10 an acre higher for the BT corn and yield was 3 bushels less per acre. In addition, the BT corn was 5 percent wetter at harvest than the conventional corn. Farmers get docked when their corn has a higher moisture content. When it was all said and done, he lost \$57.99 per acre.

He planted BT corn the following year and again lost money — this time \$58.95 per acre. "The BT corn failed as far as improving our profit margin compared to the conventional corn," says Vlieger.

Around the same time he planted his first GMO test fields, he also decided to do a little experimenting on his own. He had heard from farmers in Nebraska that cows "shied away from the BT corn." So he gave his cows the choice to consume the conventionally grown corn or BT corn. His cows ate the conventionally grown, however they smelled the BT corn and walked away from it. "That's not normal," says Vlieger. He has tried this with many other animals and found that if they have not been forced to consume GMOs in the past, they won't eat them and will go for the conventional feed instead.

In his role as a crop and livestock nutrition adviser, Vlieger knew other farmers who were feeding their animals GMOs. In South Dakota, a farmer fed his sows BT corn and they had on average 1.6 less piglets per litter. The piglets also weighed less at birth

A farmer from Harlan, Iowa, had sows with pseudo pregnancies. They seemed to be pregnant, but when they delivered, there was only a sack of water, afterbirth, and no pigs. The *Farm Bureau Spokesman* wrote about this farmer's travails and he got calls from other farmers saying they were having the same problem. Interestingly, they were all using the same BT corn. Iowa

State University claimed not to find any connection between the BT corn and fertility, but when the farmers stopped using that form of BT corn and switched to conventional corn, the problem disappeared.

A hog operation in Nebraska Vlieger was working with used BT corn in feed for breeding animals and they found conception rates dropped 30 percent. The local vet came out and tested the feed for mycotoxins and mold, but did not find any. The next group of sows was fed conventional corn and conception rates jumped back up to about 90 percent. They switched back to BT corn and conception rates dropped again, this time by 70 percent.

In Iowa, farmers found anemia and gastrointestinal tract problems such as ileitis (inflammation of the small intestine), bloody bowel, ulcers, and salmonella. When BT corn was taken out of the feed, the problems went away.

Vlieger was concerned by what he was seeing and was encouraged by Dr. Elaine Ingham, a soil microbiologist, to do a scientific study on the effect of GMO feed on farm animals. He worked with Dr. Judy Carman, a research scientist and adjunct associate professor at Flinders University in Adelaide, Australia. The long-term feeding study, published in the *Journal of Organic Systems*, found that pigs who consumed feed with GMO corn and soy had significantly higher rates of severe stomach inflammation and females had a thickening of the uterus.

Of course this study, like all others that shed a negative light on GMOs, received the typical criticisms and attacks. Dr. Carman addresses them here.

In addition to Vlieger's concerns about the unknown health effects of GMOs in humans, he is also concerned about the use of glyphosate and its effect on the healthy microorganisms in the soil, and on us. Glyphosate is an endocrine disruptor and has been found to increase birth defects and other problems in Argentina.

Vlieger pointed out that biotech companies collect billions of dollars from farmers in technology fees each year. He calculated that "if all of the acres of corn, soybeans, cotton, canola and sugar beets planted in the US in 2010 were planted with the latest and greatest GMO seed, that would generate just under 8.7 billion dollars in tech fees for just one year."

Vlieger's observations and research leave us with more questions than answers. If GMOs are causing stomach and gastrointestinal inflammation, bloody bowel, ileitis, infertility, ulcers, and false pregnancies in pigs, and glyphosate is changing the microbes found in the soil, *what are they doing to us?*

During one of our conversations, I asked him what made him continue to do this work, which can be both difficult and draining. He said, "I feel a moral and ethical responsibility to educate people about the subject. And also for the benefit of my granddaughter's generation. I see so many people struggling to have kids or kids who have food allergies. We *have* to educate and motivate the masses."

And that's what makes Howard Vlieger a great man. He is doing all this work for the love of

humanity and the love of the earth, and not, like the biotech companies battling against him, for the love of money.