

GMOs: Blowin' in the Wind

When a controversy breaks out, the ensuing debate often generates more heat than light as the combatants choose their corner and begin to duke it out. Certainly the GMO controversy is a case in point.

Of all of the concerns surrounding GMO seed, we want to focus on just one issue in this column, that of the spread of patented genetic material to neighboring fields. To help us focus, let us look at two cases.

The first example is the case of Percy Schmeiser, a Canadian canola grower who for forty years has grown and bred his own variety of canola. In 1997, Schmeiser found evidence of glyphosate tolerant (RoundUp Ready®) canola in his fields. He did nothing about it and saved seed from one of his fields for use in 1998. Farmers who purchase glyphosate tolerant canola have to sign a license agreement agreeing not to save seed from one year to the next. Schmeiser, however, has never purchased canola requiring such an agreement. In 1998, Monsanto found evidence of their patented glyphosate tolerant genetic material in Schmeiser's canola and ended up suing him in court. They did not assert that Schmeiser obtained the patented genetic material illegally. This past spring the Canadian court found Schmeiser guilty of "selling or otherwise depriving the plaintiffs [Monsanto] of their exclusive right to use plants which the defendants [Schmeiser] know or ought to know are Roundup tolerant, or using the seeds from such plants." The court held that Monsanto had the right to retrieve their patented genetic material in Schmeiser's canola even though they could not prove how it got there.

In the second case, Laura Krouse operates a seed corn business outside of Mt. Vernon, Iowa. Her specialty is an open-pollinated seed corn that traces its heritage back to a world champion ear of corn that was exhibited at the 1903 World Corn Exposition in Chicago. For nearly 100 years, Laura and her predecessor have selected this Yellow Dent corn for a variety of desirable traits. Most of the purchasers of her seed corn are organic growers who want corn that has not been genetically modified. Presently, Krouse's crop has been tested and is GMO-free.

Although it hasn't occurred yet, what happens if Krouse's corn is pollinated by pollen from a neighboring corn field that contains patented GMO material?

- Does the patent holder have the right to retrieve the genetic material by claiming the production in Krouse's 6 acre field?
- If the genetic material that belongs to the patent holder has contaminated her crop, does Krouse have the right to obtain damages from the patent holder or the farmer who grew the patented crop?

- Does Krouse have the right to claim damages for lost production of her Yellow Dent corn's genetic line in perpetuity?
- Can the patent holder successfully argue both that they have the right to their patented material as in the Schmeiser case and that they are not liable for any contamination that might take place with Krouse's Yellow Dent corn?

Several years ago, in order to protect the hard work and financial resources invested in plant breeding and GMO technologies, patent laws were modified to allow for the patenting of life forms and new technologies like GMO. Because of issues that have surfaced in the intervening years, we now face the question of whether or not new laws are needed to resolve some of the areas of contention. Several issues have at their root the potential for uncontrolled or undesired spread of patented genetic material into neighboring fields.

One well-established principle that has governed the agricultural practices of farmers working adjacent or nearby fields is the do-no-harm principle. Historically, courts have recognized this principle. That means that, as a farmer, I need to refrain from agricultural activities that will diminish the value of my neighbor's land or production. If my cattle get out of my pasture and destroy an acre of my neighbor's corn field, I need to reimburse my neighbor for the lost production.

In the same way, if I recontour my field to eliminate an area that holds water and my recontouring causes water to drain on to my neighbor's field increasing the size of one of his wet spots, then I am liable for damages. When it comes to agricultural practices, my property rights are not absolute. They are limited by the do-no-harm principle. I am free to work my field as I choose so long as my decisions do no harm to my neighbor.

Likewise most agricultural counties have noxious weed ordinances. These ordinances place a burden upon each farmer to kill or remove any weed on their land that is deemed to be noxious. Even though a weed like the common thistle is a natural part of the landscape, I am required to kill those plants that grow on my property so that the seeds don't blow into my neighbor's field causing him harm.

As the spraying of agricultural chemicals, particularly herbicides, became more common, a new problem began to appear. Who is liable if my crop is damaged because of spray drift from my neighbor's field? While the specific issue was new, the resolution of the issue was not. Grounded in the do-no-harm principle, it has been determined that the one doing the spraying is liable for

any damages incurred. What happens if I benefit from the spray drift because I am growing the same crop and I have a weed problem? In that case, I owe my neighbor nothing. Any benefit I enjoy is mine to keep.

In summary, some of the property rights questions that may need to be considered are:

- Are the owner of the patented material and the farmer who grows GMO crops responsible if patented genetic material contaminates a neighbor's non-GMO crop?
- Do producers of non-GMO crops have the right to expect that their fields will not be contaminated? Or, do they have the responsibility to protect themselves from errant patented genetic material?
- Should growers of non-GMO crops have to notify the owner of patented genetic material if they find evidence of that material growing in their fields? Whose expense is it? Who compensates the grower for lost production?
- At what point does the patent holder of genetic material lose control of its patent? Is it when pollen drifts onto a neighboring field?
- Should the patent office refuse to patent genetic mate-

rial unless the applicant can prove that there is no risk of out-crossing?

- How does a genetic material patent holder protect itself from unauthorized use of its genetic material?
- What incentives ought to be offered plant breeders to make it feasible for them to make the massive investment needed to develop new seed technologies?
- What procedures do growers have to undertake to if they quit growing GMO crops? If their new crop is contaminated by pollen drift, how do they prove that they did not illegally save GMO seed?

These and a host of similar questions need to be addressed as we move forward into a world with technologies (and thus issues) that were not even thought about a couple of years ago. Only by rational discussion of these issues will we be able to have more light and less heat.

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