



Q: I am going to plant a portion of my soybean and corn acreage to nonGMO varieties. Do I have to worry about pollen contamination?

A: Most commonly used transgenic traits such as roundup tolerance and the Bt toxin are considered to be dominant traits. If pollen from a GMO variety pollinates the flower on a non-GMO variety the embryo of the resulting seed will carry and express the GMO trait. So, pollen movement can be one source of contamination concern. However, our crops differ greatly for the amount of pollen movement from plant to plant.

Soybean is a self-pollinated crop. Nearly all (greater than 99%) of the pollen stays within the flower that produced it. Some soybean pollen can be moved from plant to plant by insects (mostly thrips and small bees), but the occurrence is very small and the distance traveled is very short. For this reason, we do not worry much about pollen from GMO soybeans contaminating non-GMO plants. A buffer of around 10 feet is adequate to manage pollen contamination in soybean.

Corn is a cross pollinated crop, so nearly all of the pollen moves away from the plant that produces it. In addition, corn is a monoecious plant. This means that it produces male flowers on one part of the plant (tassel) and female flowers on a different part of the plant (ear). This physical separation of the male and female flowers greatly increases the likelihood of cross pollination. Corn pollen is relatively heavy, so the majority of the pollen falls within 60 feet of the plant that produced it. But, some of the corn pollen grains can travel much farther depending on humidity and wind conditions. Buffer zones of up to several hundred feet may be required for non-GMO corn. Remember that no less than 20% of your corn acreage should be planted to non-Bt corn hybrids. This non-Bt corn is called a European Corn Borer refuge and is part of a Bt-resistance prevention strategy. For that strategy to work, the non-Bt refuge must be planted in close proximity to the Bt corn hybrids. You should assume that all of the non-Bt corn grown in the refuge is contaminated by pollen from the Bt hybrids.

The limits of acceptable contamination is not know at this time. We don't even know if segregation of non-GMO from GMO grain will be required or rewarded with a premium. But, it is appropriate that you are wrestling with the issues. Remember to try to control other sources of contamination during the planting, harvest, and handling phases of grain production. Even volunteer plants from last year can be a source of contamination.

Finally, be careful about what type of document you sign or what you say about the non-GMO grain that you sell. Never sign a document that indicates that your grain is GMO free or that no GMO contamination occurred. You can site specific methods you used to try to reduce contamination, and you should keep records on the specific varieties and hybrids you purchased.