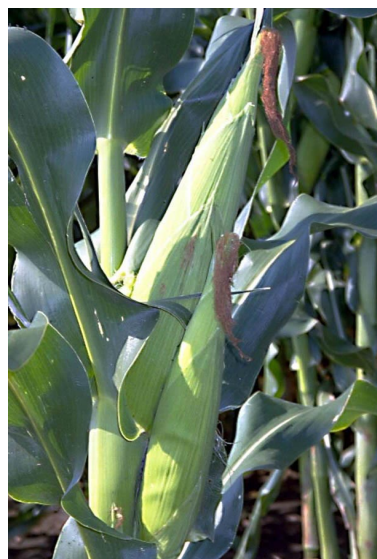




Farm Views

Controlling Volunteer StarLink™ corn

While Aventis has pulled the genetically modified hybrid, StarLink™, from the market and is no longer available for planting, the potential for



complications continue this year in fields exposed to the genetic trait in 2000.

Corn harvest is never 100 percent efficient and kernels left in a field may emerge the following spring as volunteer corn. Since the StarLink™ trait is passed on in seed, each volunteer corn plant in 2001 resulting from planting StarLink™ seed corn in 2000, has a 75 percent chance of containing the trait. The StarLink™ trait is also transmitted by pollen so a non StarLink™ field in 2000 produced adjacent to a StarLink™ field would likely contain the StarLink™ trait as a result of pollination from the StarLink™ field. Bottom line, any field where StarLink™ corn was planted in 2000 or adjacent to a field where StarLink™ corn was produced in 2000, very likely will contain volunteer StarLink™ corn in 2001. FDA tolerance for the StarLink™ trait in corn for human consumption is zero. This means corn from fields with either of the 2000 StarLink™ exposures described will, in all likelihood, not be acceptable for human food use under the current zero tolerance and will need to be marketed as such.

Producers have several options for controlling volunteer StarLink™ corn ranging from crop selection to cultural practices and chemical control.

Crop Selection

In a field where StarLink™ was planted in 2000, the first and most important recommendation would be to not plant corn, but rather to plant a crop not intended for human consumption. Volunteer corn is impossible to distinguish from the intended hybrid and there are no strategies that provide 100 percent control of volunteer corn, the level required to achieve zero contamination.

Soybean is an ideal row crop to plant where volunteer StarLink™ corn is a problem because: 1) several very effective herbicides are available for volunteer corn (including StarLink™) control in soybean, and 2) volunteer corn is readily spotted in soybean and escapes can be manually removed, if necessary.

While not recommended, if corn is planted in fields which were exposed to StarLink™ in 2000, make certain the crop does not reach human food channels.

Cultural Practices

No-till and ridge-till systems aid in the control of volunteer corn. Tillage “plants” volunteer corn ears and kernels. Under no-till, a smaller percentage of volunteer corn kernels will germinate compared to a tilled seedbed. A ridge-till system which uses a “ridge-clearing” device can move most of the volunteer corn kernels from the ridge (new corn row) and deposit them between the rows where the resulting volunteer corn can be controlled with a cultivator. The ridge-clearing device must be adjusted to scrape surface soil (at least one inch) off the ridge in order to effectively move corn kernels to the inter-row area. Both no-till and ridge-till reduce volunteer corn establishment reducing the task of controlling the remaining volunteer corn.

Chemical Control

Volunteer corn often occurs in clumps as a result of ears remaining from the previous crop. Effectiveness of soil-applied herbicides in high density clumps is reduced due to “competition” between individual plants for the herbicide. Post emergence herbicide effectiveness is reduced in high plant density clumps of corn because one plant shields another resulting in inadequate herbicide coverage. As a result, complete control of volunteer corn is unlikely from a single



soil-applied or post-emergence herbicide application. A follow up operation will be required to control survivors.

This article will not cover the specifics of individual herbicides. Consult product labels for application rates, additives, volunteer corn growth stages, and crop rotation restrictions.

Soybean

Several herbicides can effectively control volunteer

BSE (Mad Cow) and Foot & Mouth Disease, Ending the Confusion!!!

The media, public, and even animal producers have demonstrated a great deal of confusion between Bovine Spongiform Encephalopathy (BSE) which is known as “Mad Cow Disease” and Foot & Mouth Disease. The following table will compare and contrast the difference between these diseases and attempt to clarify some issues that seem to hinder understanding and prevention of these animal diseases.

Question	BSE (Mad Cow)	Foot & Mouth Disease (FMD)
What is this disease?	BSE is an abnormality in proteins called prions. These prions attack and cause severe damage to the central nervous system.	FMD is an extremely contagious viral disease of cloven-hoofed animals such as cattle, pigs, and sheep.
Is it a threat to humans?	There is a possible link between BSE in animals and variant-Creutzfeldt-Jakob Disease (vCJD), in humans; vCJD can be fatal.	NO, FMD does not impact human health or food safety.
Is it a threat to animals?	BSE is eventually fatal to animals.	The disease is not commonly fatal, but causes extreme production losses in affected herds.
How is it transmitted?	BSE is believed to spread through the consumption of nervous system tissue. Animals or humans would have to eat nervous system tissue to contract BSE.	This virus is easily transmitted through direct contact between animals or indirectly through the movement of contaminated vehicles, shoes, clothing, or food. It can also be transmitted through meat and dairy products.
How is it identified?	There is no test to examine for BSE except through slaughter of the animal and examination of their brain.	Clinical signs of the disease include lameness, excessive salivation, reluctance to eat, abortion, and blister-like erosions on the mouth and feet.
How is it treated?	There is no treatment for BSE.	There is a vaccine, but it's limited supply, an inability of scientists and veterinarians to differ between the disease and the vaccine, and meat export restrictions make slaughter the most viable option.
Is it in the U.S.A.?	NEVER. BSE has never been found in the United States or North America.	The last outbreak of FMD in the United States was in 1929. Since that time it has remained a foreign animal disease. The disease occurs regularly in some countries in Africa, the Middle East, and South America.
What is being done to prevent this diseases arrival in the U.S.?	The United States has taken active steps to prevent the introduction of infected cattle or contaminated feeds by banning animal importation from BSE infected countries. It is also illegal in the United States to feed cattle rendered products containing ruminant-derived proteins.	The United States continuously maintains an active program to prevent the introduction of FMD into the U.S. cattle herd. These efforts have been strengthened since the outbreak in Europe. The USDA has added additional staff to increase surveillance at international airports, and livestock producers are asked to limit travel to foreign countries and limit foreign visitors on their operations.

For more information on BSE and FMD, please contact Lance Cummins-Brown, extension educator, at 402-441-7180 or e-mail him at lbrown4@unl.edu. (LCB)

corn in soybeans. The post-emergence herbicides Assure, Extreme, Fusilade, Fusion, Poast Plus, Roundup, Select, Touchdown, and other brands of glyphosate all provide excellent activity. Roundup Ready soybean is required, if Roundup, Touchdown, Extreme, or any other brand of glyphosate is used. Raptor applied post emergence will provide moderate control of volunteer StarLink™ corn. Pursuit + Scepter applied post emergence will suppress volunteer

StarLink™ corn. Best results occur if applications are made when the volunteer corn is 6 to 12 inches tall. Soil applied Command, Scepter and Treflan would provide some suppression of volunteer StarLink™ but are



not nearly as effective as the post emergence herbicides mentioned.

Corn

Unless a government agency raises the tolerance level for the StarLink™ trait in corn for human food, it is not realistic to expect to achieve sufficient control of volunteer Star Link™ corn in fields exposed to StarLink™ in 2000. If the tolerance level for the StarLink™ trait is increased (a

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