Floppy Corn Syndrome

A few cases of “floppy corn” in various areas of the province have been reported. What is “floppy corn” and why does it happen?

If dry surface soil and/or hot, dry weather conditions exist, several sets of nodal roots may fail to form, resulting in “rootless corn”. Affected plants must depend on the seminal roots and mesocotyl for nourishment when normally the seminal roots have already taken a backseat to the nodal root system.

Before rootless corn is evident, corn plants may appear vigorous and healthy. The problem often becomes evident when corn is subjected to strong winds, which result in plants falling over because there is a limited number or no nodal roots supporting them. The leaning or lodging plants are often referred to as “floppy corn” (see Figure 1: Floppy Corn Syndrome) and it is generally observed in plants from about the three leaf stage to the eight leaf stage of development.

When affected plants are examined, the nodal roots appear stubby, blunt, and unanchored to the soil (see Figure 2: Nodal Roots). The root tips will be dry and shriveled.

Because several sets of roots may not have formed below-ground, the crown may “appear” to be at or above the surface (see Figure 3: Crown located above soil surface). Leaning and lodged plants may also be wilted.

Rootless corn problems are usually caused by weather related conditions that coincide with development of the nodal root system. However, rootless corn can also be caused by shallow seeding depths that result in nodal root initiation beginning at the soil surface rather than at the usual ¾ inch depth.

What Can Be Done?

The best thing for “floppy corn” is adequate rainfall which will promote crown root development and help plants to recover. Cultivation to throw soil around exposed roots may also help the corn’s recovery. Since affected corn is likely to be vulnerable to potential lodging problems at maturity, it should be harvested as soon as grain moisture conditions permit.

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