Early Corn Problems

By Ed Lentz – OSU Extension Educator, Hancock County

Most of the corn has been planted in the area. Farmers evaluate fields for potential problems. In most cases, problems will be noted, corrected where possible, and in severe cases, replant the field if time allows.

Farmers use diagnostic lists developed by Extension Agronomists to identify the cause of stand problems. The following is one diagnostic list that you can use to be a plant detective for the farmer:

- No seed present. Generally caused by planter malfunction or bird or rodent feeding. Birds and rodents often leave evidence of their activity such as digging holes and seed or plant parts left on the soil surface.

- Shoot (coleoptile) unfurled or leafed-out before reaching the soil surface. The shoot from the seed is programmed to grow upward until it comes in contact with sunlight, then it unfurls. If light hits it before reaching the surface, such as cloddy soil or improperly closed seed furrow, it will unfurl early.

  Other potential causes of premature leaf unfurling include planting too deep, compaction or soil crusting, and cool, wet conditions allowing extended exposure to chloroacetanilide herbicides.

- Poorly developed radicle (root) or shoot from the seed. Could be a defected seed since most hybrids are sold at 95% germination guarantee, the other 5% could be defected or poor quality.

  Disease would be a more common problem. Evidence of seed rots would be a yellow to brown tip on the shoot. A healthy root should be creamy white, but disease will make it discolored and dark.

- Seed swelled but did not sprout. Often occurs during a time that a seed starts to absorb water but a rapid change in weather causes soil conditions to become unsuitable for continued development, such as hot and dry or cold and wet.

  Planting issues may also cause the problem; for example, poor seed-to-soil contact and shallow planting may have allowed the seed to dry out before completing germination. Seed furrows may not have properly closed with no-till planting.

- Row skips associated with discolored and malformed seedlings. This may be a symptom of herbicide damage. Note depth of planting and herbicides applied.
compared with injury symptoms such as twisted roots, club roots, or purple plants.

- Seeds hollowed out. Evidence of insect damage such as seed corn maggot or wireworm. Try to confirm by finding feeding larvae.

- Uneven seedling emergence. May be due to soil moisture and temperature variability within the seed zone. Variability often caused by poor seed to soil contact in cloddy soils, soil crusting, or planting too shallow.

For any field problem, an individual needs to note any patterns of poor emergence. Often the problem corresponds with a particular row, spray width, hybrid, field or residue, which may provide some additional clues to the cause.

It is not uncommon for emergence problems to be the result of two or more stress factors; otherwise, the crop would have emerged fine with only one factor.

It is also advisable to note the population and the variability of the seed spacing. This information will be valuable in diagnosing any future problems.

Grain farming is more than just planting and harvesting a crop. Farmers have to continually inspect fields for potential problems to implement the proper and corrective management practice.