

## **Extension Notes**

Personal Column for May 11, 2010

By Gary Hall, Iowa State University Regional Extension Education Director

### **Cold Corn**

Just about all the corn is planted in North Iowa. That frost free date of May 15 is still looming. Overall, corn has been planted within the recommended window which should serve to maximize yield potential relative to planting date. ISU Agronomists are concerned about the subsequent low temperatures.

Soil and weather conditions at planting and emergence were excellent for most of the state. Alison Robertson, ISU Plant Pathologist, recently emphasized the need to assess seedling health when doing stand counts.

Cooler soil temperatures slow the germination process and predispose seedlings to fungal infection. Seedling growth problems in some parts of Iowa already this year, include:

- Imbibitional chilling damage, which is the chilling effect seeds may experience when they imbibe, or absorb, water when soil temperatures are less than 55 F for an extended time. Seedlings may “corkscrew” or not emerge when exposed to these cool soil temperatures. This may happen also when there are rapid swings in air temperatures of nearly 30 F.
- Soil crusting due to wet soils at planting or heavy rains after planting reducing plant stands. Significant stand reductions lower yield potential.
- “Leafing out” underground. This occurs most often in crusted soils and also appears associated with imbibitional chilling, mentioned above.
- Variable plant emergence and reduced plant population. Variable emergence and growth will reduce yield.

With a forecast of low air temperatures, soil temperatures will also lower respectively. According to Roger Elmore, ISU Corn Agronomist, growers and agronomists should pay particular attention to corn fields planted recently as they are the most likely to exhibit seedling rot or poorer emergence associated with some of the issues mentioned here. Frost is likely to occur in low lying areas causing leaf necrosis and delayed growth of sprouted seeds.

Any of the situations mentioned above may result in a need to replant. Elmore recommends you be sure to assess stands well before making this decision.

In spite of all these issues, 2010 has provided one of the best planting seasons I have ever witnessed. Most of our corn was planted in such a timely manner that should serve to maximize your yield potential.

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