



Crop Talk



The Agrico Crop Talk newsletter features current hot topics making headlines in the agricultural industry today. The material presented in these newsletters includes viewpoints from industry specialists, Agrico agronomists and Crop Care affiliated members. This edition of Crop Talk looks at environmental stresses on Corn & Cereals.

Regions of Ontario have experienced cold, wet growing conditions over the past several weeks, with some regions affected greater than others. With these adverse conditions, crop growth and development have been impaired. Soil conditions have been less than ideal. Nutrient uptake has been limited, and now some cereal crops are pale green and yellow in colour. The probable causes of the yellowing are leaching of nitrogen on lower CEC soils, excessive moisture and poor drainage. The visual symptoms point to nitrogen deficiency. Nitrogen deficiency in crops is expressed when plants become stunted and yellowing appears, starting on the older leaves. Denitrification usually occurs when soils are under extended periods of waterlogged conditions (absence of oxygen) and as temperature rises. Wet soils become anaerobic or do not contain enough oxygen to supply nitrifying bacteria. As a result, very little nitrate nitrogen is produced. When oxygen is excluded from the soil, bacterial denitrification can occur. This will reduce nitrogen availability sharply. Nitrogen is necessary for chlorophyll synthesis and as part of the chlorophyll molecule, is involved in photosynthesis. Lack of nitrogen and chlorophyll means the crop will not utilize sunlight as an energy source to carry on essential functions such as nutrient uptake.

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Other nutrient problems may exist if plants are yellowing. Sulphur deficiency will cause stunted growth and chlorosis similar to nitrogen symptoms but deficiency occurs in the younger leaves. Manganese deficiency in wheat will appear as interveinal chlorosis of the newer leaves which progresses into grey-brownish lesions. Scouting your fields is a must for accurate plant diagnosis.

According to this week's USDA report, corn planting is essentially complete in most states south of the border and the condition of this year's crop is better than average. Unfortunately, the same is not true for the province of Ontario. Most acres planned for corn should now be planted or switched to an alternative crop such as edible beans or soybeans. Emergence concerns have Ontario corn crop conditions in a holding pattern. Cold May temperatures have led to very slow emergence. Soil crusting, insect damage and cool night time temperatures have hindered crop progress and contributed to lower than desired populations. The growth stages of corn are important to determine when scouting your fields. With 2 leaves fully expanded, photosynthesis begins. At the 4 to 6 leaf stage of growth, potential grain yield is defined. Since plants are stressed from the environmental conditions, their ability to take up nutrients becomes limited. Monitor crop progress closely over the next couple of weeks, remembering that if nutrients availability to the plant is limited now, yield will ultimately be affected. To ensure grain yield and quality, re-evaluate the amount of nitrogen already applied and total nitrogen availability to the plant.

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