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MODERN TOBACCO GROWERS



News and events about the tobacco industry...from the grower's point of view.

A Root Wash Can Tell You What's Wrong with Early Season Tobacco Growth

by: W. K. Collins

During the first month after transplanting, most of your tobacco crop's growth takes place underground while its roots are developing. Good growing conditions are important during this period. Moisture stress may even be desirable to increase rooting depth, particularly in wet seasons when root development may suffer.. The size and health of the root system developed during the first month after transplanting greatly influence the amount of leaf growth (and your later yield) during the season month after transplanting.

Unfortunately, not enough attention has been given in the past to factors that hinder good root development. The effects of a poor root system can easily be seen in the lack of above ground development of the plants.

To determine the causes of poor root development, dig up a few plants and do a root wash. For your examination, select plants that are performing poorly. This will

increase the chances of quick identification of the cause of poor growth.

Don't pull plants from the soil because pulling can strip off a portion of the root system. Instead, dig up plants and thoroughly wash the soil from the roots.

Some of the most frequent causes of poor root development other than major root diseases are as follows:

- 1. Water damage**, indicated by wilting plants and decaying root tissue in fields with poor drainage because of a hardpan or tight clay layer near the soil surface.
- 2. Fumigant injury**, indicated by swelling of the main root.
- 3. Fertilizer salts injury**, which can be spotted by shriveled roots containing very limited new roots because fertilizers have been too close to the roots, especially in sandy soils during drought conditions.
- 4. Herbicide injury**, indicated by zones of the main root without side roots, especially in cool, wet soil, where a soil-incorporated chemical for weed control has been applied.
- 5. Wireworm damage**, which is indicated by holes and a tunneled stem just below the soil line.

Usually, only limited corrective action can be taken during the growing season when you find these problems. However, a knowledge of them can be very important in helping you avoid or limit these causes of poor growth in your next crop.

Earlier topping of plants with poor root development can sometimes improve leaf quality on plants with poor root systems. Topping stimulates root growth; and if it is done early, it may help to offset some of the adverse effects of underdeveloped root systems.

Crops with root problems usually have irregular growth and flowering. Multiple applications of a contact-type sucker control solution and topping early before a product containing MH (maleic hydrazide) is applied will be very beneficial. It will be normal for small plants to be chemically topped by the contact solution in fields with irregular growth.

Chemically topped plants are more likely to produce better quality cured leaf than are plants whose floral parts are removed by conventional means at a later stage of growth.