VI. POSTEMERGENCE CONTROL PRODUCTS

Products used for the control of emerged grass and broadleaf plants. The principles of postemergence herbicide activity true for both broadleaves and grasses

I. Younger weeds

   a. 

   b. 

   c. 

II. Weeds need to be actively growing at time of treatment to get good control.

III. Herbicide must get into the plant to get good control

   - Plants sun v. shade –
• Difficulty getting herbicide into plants because of the cuticle. The herbicide must enter the plant through:
  1.

  2.

  3.

IV. Herbicide must get to the active site in sufficient concentration in order for toxic symptoms to occur.

HERBICIDES AND PLANTS

Herbicides must enter plant through
  1) leaf – difficult because of cuticle
  2) roots – no cuticle, easy to penetrate
  3) shoot – poorly developed cuticle, soil applied herbicides can move through the shoot (DCPA, DNA’s)
Most postemergence herbicides are absorbed through the leaf. In order to get into the leaf must pass through the cuticle.

What is the cuticle?

Realizing that the cuticular wax is very non-polar and water is very polar we see that we have a problem. How to get something that is water soluble to transport across a barrier that is the opposite? Remember: like dissolves like?

Bottom line is that much of the applied herbicide may be left on the leaf surface. Adjuvants to improve efficiency.

Polar –

Non-polar –

Once inside there are two different transportation systems
Symplastic transport –

Apoplastic transport –

Adjuvants –

Sufactant –

Uses: