e Basics of Weed Control

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Plant Susceptibility. Plant susceptibility, or sensitivity to herbicides, depends on a number of factors: time of year; stage of plant growth; type of application and spray carrier; soil moisture before, during, and after application; precipitation; and temperatures of soil and air before, at, and immediately after the application. The addition of a surfactant (or adjuvant) will enhance performance and sometimes is essential for control of some species. A surfactant enhances the coverage of a sprayed on herbicide (pesticide) by reducing the surface tension of the spray droplets and allowing greater pesticide contact, enhancing the toxicity of the material.

Classification of Herbicides. Herbicides are classified based upon how they are used for weed control and how they work.

Classification by Use -

- *Selective herbicide* (e.g. 2, 4-D) implies that certain weeds are killed but most desirable plants are not significantly injured.
- *Nonselective* (e.g. Roundup) refers to chemicals that are generally toxic to plants without regard to species.

Remember, plants differ in susceptibility to any specific chemical, and the choice of herbicide and application rate depends on the species to be controlled. Compounds that can be used selectively in some situations may be used non-selectively by increasing the rate of application.

Classification by Mode of Activity - There are generally three classes of herbicides based on mode of activity: contact, translocated, and soil applied (all may be selective or nonselective).

- *Contact herbicides – foliage applied* – control weeds by direct contact with plant parts. They are referred to as chemical "mowers", as only the plant part contacted is controlled. Good coverage is necessary.
- *Translocated herbicides – foliage applied –*

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