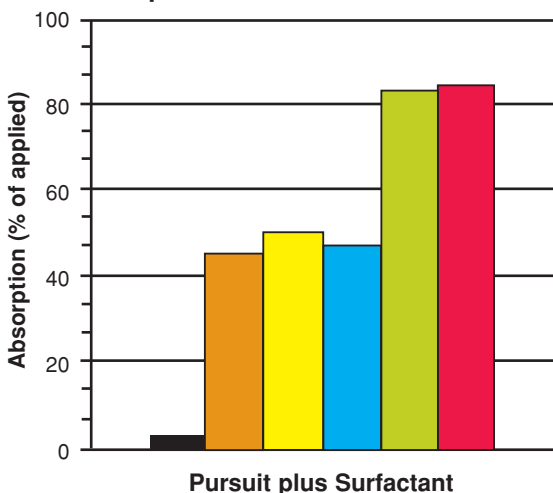


NITROGEN BASED FERTILIZER AS AN ADJUVANT

Most postemergence herbicides recommend or require the addition of a nitrogen based fertilizer as an adjuvant either alone or in combination with a non-ionic surfactant or a crop oil concentrate. Many of the reasons why nitrogen based fertilizers work are unclear but the positive results are obvious.

Field tests have shown that the addition of a nitrogen based fertilizer to a herbicide application increases the absorption of the herbicide into the leaf. The two graphs below show how the absorption of Pursuit is increased by the addition of various adjuvants, but when a nitrogen based fertilizer is added with a non-ionic surfactant or a crop oil concentrate the results are dramatic.

Foliar Absorption of Pursuit and Surfactants*

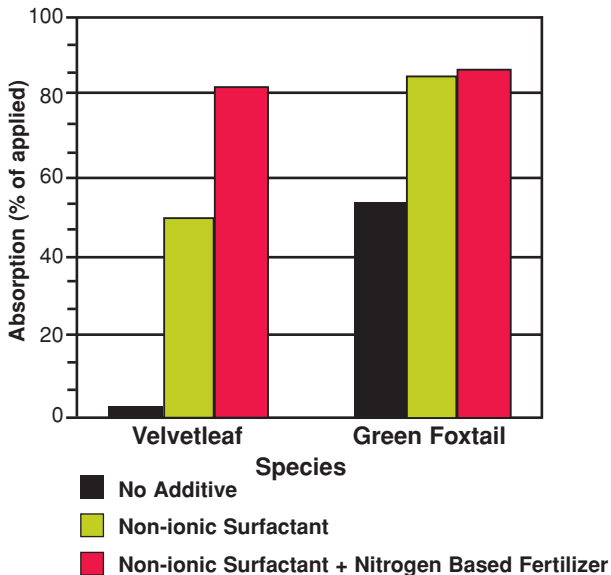


- No Additive
- Nitrogen Based Fertilizer
- Non-ionic Surfactant
- Crop Oil Concentrate
- Nitrogen Based Fertilizer + Non-ionic Surfactant
- Nitrogen Based Fertilizer + Crop Oil Concentrate

It appears that nitrogen based fertilizer, by enhancing the uptake of herbicides, are able to counteract the effects of unfavorable weather conditions, which make certain weed species more resistant to herbicides. A nitrogen based fertilizer may also aid the movement of systemic herbicides into the phloem of the plant, thereby increasing the amount of herbicide that can translocate to growing points.

The effectiveness of a nitrogen based fertilizer as an adjuvant depends on the weed species being targeted. When the herbicide label offers a choice between a crop oil concentrate, a non-ionic surfactant or a nitrogen based fertilizer, the problem weed species in the field should become the determining factor of which type product to use.

Foliar Absorption of Pursuit and Surfactants in Velvetleaf and Green Foxtail*



*Contributed by American Cyanamid Company