

# Wetting Agents

Bert McCarty  
Research/Extension Turf Specialist  
Clemson University

**Question?** *What are the latest findings on the most effective wetting agent? You hear so many product claims but rarely see research performed on these.*

**Answer.** Wetting agents, like many turfgrass products, often are introduced into the market with little independent research but use slick magazine ads and testimonials to create interest. Wetting agents are a type of adjuvant which is a spray additive that enhances the performance, safety, or handling characteristics of another product. ‘Adjuvant’ is a broad term and includes **surfactants, wetting agents, crop oils, crop oil concentrates, anti-foaming agents, drift control agents, penetrants, pH modifiers** and **compatibility agents**. These help modify the surface properties of liquids by enhancing and facilitating emulsifying, dispersal, wetting, spreading, sticking and penetrating of liquids into plants and soil.

**Wetting agents** help the spray droplet to spread over the leaf surface by reducing the interfacial tension between the leaf surface and spray droplets. The three types of wetting agents (**anionic, cationic** and **non-ionic**) are classified based on how they ionize or separate into charged particles in water. Non-ionic surfactants do not ionize, thus, remain uncharged. This is the most commonly used type of surfactant and is compatible with most pesticides. They are unaffected by water containing high levels of calcium, magnesium, or ferric ions. They also can be used in strong acid solutions. **Anionic** wetting agents ionize with water to form a negative charge while **cationic** ones ionize with water to form a positive charge. These are only occasionally used.

My experience with wetting agents is to find one you like (or better yet, trust) and stick with it. Research rarely consistently finds one particular wetting agent superior to another in terms of alleviating dry spots. However, at the last International Turfgrass Research Conference, data from south Florida looked at three common wetting agents  $\cap$  Primer, Aqueduct and AquaGro at various rates and combinations. Under south Florida conditions on Tifgreen bermudagrass greens, products were applied weekly in early summer (May til June) and monthly thereafter. According to the researchers, “during periods of drought, Primer or Aqueduct generally provided both significantly higher turfgrass quality and reduced percent dry spotting than AquaGro and untreated controls.” However, before using any new products, experiment with it on a limited area, leaving an untreated check as a comparison.

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