

## COMMON QUESTIONS ABOUT WETTING AGENTS

**Q: What about using detergent wash water for turf or gardens as a means of water conservation?**

**A:** This could be very damaging to plant life. A small amount of detergent will not adversely effect the soil or plants. However, if used as the main source of watering and/or used on a regular basis the detergents can build up in the soil. Detergent based materials have been shown to reduce soil aggregate stability. The anionic materials in most detergents are phytotoxic and in particular are damaging to the root structures. In some cases these ionic materials will create a repellent surface on the soil and actually plug-up the profile.

**Q: What about compatibility with other turf chemicals?**

**A:** The non-ionic wetting agents are compatible with all turf and horticultural chemicals. Know what you are using — **read labels**. Some materials, like the antibiobiotic fungicides do not want to be sprayed in combination with the wetting agent. There is no chemical reaction — only the increased adsorption of the fungicide into the leaf to a potentially phytotoxic level. Similarly, when spraying readily available nitrogen, keep the level applied well below 0.2 lb. per 1000 sq. ft. if spraying in combination with a wetting agent.

**Q: How can there be more available water from using a wetting agent?**

**A:** Dr. Law's work from Texas A & M showed that the moisture release curve — percent moisture versus moisture tension in the soil — is shifted into the lower tension direction when using a wetting agent. This would be similar to changing the soil from a heavy loam to a sandy or sandy loam soil. The soil, of course, isn't

changed — just the water. In addition to this improved availability we have the improved uniformity of wetting; all parts of the soil profile are wetted when the soil is treated. These two factors add up to a 30 to 50% savings in water requirements. Tensiometer tests from Penn State University and Cornell both showed the reduced water requirements.

**Q: Has any work been done with pesticides as far as improving soil applications?**

**A:** Yes, Huggenberger and Letey showed that the herbicide location in the soil profile could be affected by the use of wetting agents. The work was done using the wetting agent in the pesticide spray solution. We have been recently working with Dr. Niemczyk and Dr. Tashiro on improving the distribution of insecticides into the soil for improved control of grub and soil born insects. Summing up quickly the two to three years work, the data showed that: (a) the addition of sufficient wetting agents (8 to 16 oz. wetting agent per 1000 sq. ft.) to the tank mix and drenching the spray into the soil (0.5 inch of water) **before** the spray dried gave very significantly improved control (20 to 50% improved to 80 to 93%). Further studies are in progress. We have also seen significant improvement of the systemic fungicides when they are either applied to previously treated soil or in combination with the spray. As mentioned, the insecticides are only improved when used in combination in the spray.

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