

“Water Management Tools to Maximize Plant Survival”

by Demie Moore

The bad news is that too many transplants do not survive — the good news is that there are products available to help when water is the problem.

“It was a healthy plant from a reliable source when it was bought. Pretty careful attention was given to preparing the planting hole and it was watered well after installation — still it didn’t make it ...”

“The addition of some ornamentals had been planned for a long time and the membership was looking forward to it — but more important maintenance needs took precedence, so it was late spring before the planting could be done. Then it got hot and dry, but the new trees were planted anyway. We watered a lot but they still dried out faster than we could get back to them — guess they didn’t really have a chance ...”

“That slope had always been an eyesore — eroded and bare. Seed always got washed off so we decided to try some ornamentals and mulch. Unfortunately the planting holes overflowed when we watered, so the water ran off anyway and the plants didn’t survive. Now we have erosion *and* dead plants — what a mess!”

Too Much or Too Little Water

These are three “worst case” type scenarios, but we have all experienced them or at least seen them happen to someone else. What happened in all these cases? Why do these planting failures happen far too often? The answer, not always but very often, is ineffective water management — not *lack* of water management — just *ineffective* water management.

Actually, ineffective efforts to supply the water requirements of new transplants is the most common cause of problems with transplant survival. Problems — with the movement of water into and through soils, with keeping water where the plant needs it, or problems with imbalances in transpiration needs and capabilities — are common, and all result in too much or too little water where the plant needs it, when the plant needs it. Drowning, desiccation and/or dying of thirst, i.e. transplant failure, are the eventual consequence of these problems with too much or too little water.

Bad News, Good News

That’s the bad news, but there’s good news too. Water management tools, specifically soil wetting agents, superabsorbants and transpiration minimizers, are available products that directly affect the efficiency of water delivery to the plant and water use by the plant.

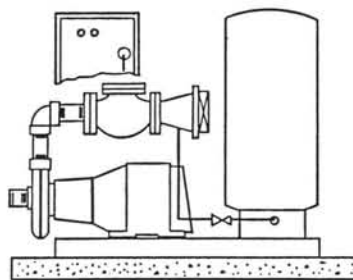
None of these products are new, but their use for maximizing transplant survival is sometimes overlooked. Becoming more familiar with how each of these products work and how they can be used will give turf and landscape managers greater control over the fate of their landscape efforts. Let’s look first at soil wetting agents, then at superabsorbants and finally at transpiration minimizers.

Wetting Agents Allow Water to Move

Wetting agents are widely used in many different industries. They were first formulated and patented for horticultural use by Aquatrols Corporation of America in the mid-1950’s. These soil wetting agents are products which, when applied to a soil, improve the ability of that soil to be penetrated by water.

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(Water Management cont'd.)

This happens because wetting agents reduce water's tendency to cling to itself and other things. The result is that applied water (rain or irrigation) moves quickly and uniformly into, throughout and on through all kinds of soils rather than running off, puddling or channeling through unevenly.

A good wetting agent should work in all soils and should have several months residual effectiveness. The residual effect will ensure continuously efficient dispersion of water throughout the plant's old and new rootzone area. This is important to avoid "too wet" as well as "too dry" situations. One application of a good wetting agent at installation should be sufficient to aid in transplant survival.

Super Absorbants Allow Water to be Held

Superabsorbants were first developed for horticultural use by the USDA in 1973. Early forms of the product were starch based, although most currently available products are synthetic materials which are more economical and longer lasting.

As their name implies, superabsorbants are products which absorb large amounts of water. This happens because of an attraction between the water and the absorbant particles which causes a swelling of the particle. Water is held within the particle, forming a gel-like mass, and can be extracted as needed by plant roots.

When mixed into a soil, or used in a transplanting hole, superabsorbants allow more water to be held in that area. The result is an ability to keep water in the area where it is most needed for transplant establishment.

Credit: Greenmaster

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Department of Horticulture

Fall, 1989

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Meeting Time and Place: Wednesdays, Sept. 6-Dec. 6, 89, 6:30-9:45 p.m., Room to be arranged, CES Building, 1188 John Deere Road.

Registration, Credit, Tuition: Registration is at first class meeting. Tuition and credit: 3 hrs., \$210, plus \$15 instructional support fee. Tuition and fees are subject to change prior to beginning of class.

Instructor: Prof. David J. Williams

To preregister for the above course, send the form below to: Ms. Robbin Nelson, Office of Statewide Programming at Rockford, 1601 Parkview Ave., Rockford, IL 61107, phone (815) 395-5592.

Glencoe - Hort 212: Landscape Contracting: Interpretation of the landscape architect's plans and specifications; estimating quantities of materials; and computing costs and procedures for bidding and executing landscape construction. Prerequisite: Hort. 211. Registration limited to horticulture majors, students in the ornamental horticulture curriculum, or students in the agricultural occupations for secondary teachers only.

Meeting Time and Place: Wednesdays, Sept. 6-Dec. 6, 1988, 6:30-9:45 p.m., Room to be arranged, Botanic Garden Ed. Center, Lake-Cook Road, East of Edens.

Registration, Credit, Tuition: Registration is at the first class meeting. Tuition and credit: 3 hours - \$210; plus \$15 instructional support fee. Tuition and fees are subject to change prior to beginning of class.

Instructor: Prof. Floyd A. Giles

To preregister for the above course, send the form below to: Mr. Richard Casper, Office of Statewide Programming, 300 W. Golf Road, Mt. Prospect, IL 60056, Phone: (312) 255-3320.

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