



Reforestation
Technologies
International

Using RTI Hydration-paks In Reforesting Dry Sites

The Hydration-pak

The purpose of using RTI's Hydration-paks is to enhance seedling establishment and reduce transplant shock on harsh sites with growing season moisture deficits. Under these conditions, seedlings will benefit from the Hydration-paks. The pre measured 10g teabags contain a balanced blend of controlled release fertilizer that will supply extra nutrients to the seedlings for two to three growing seasons. Also included is a water retaining polymer that will supply moisture to seedlings during times of moisture deficits.

Importance of Placement

Nothing is more critical to obtaining the benefit of the Hydration-pak than its placement. Do it correctly and you will be amazed at the results. The Hydration-pak serves two functions: to supply nutrients and moisture to a seedling. Keeping this in mind is very important when placing the teabag. First, the nutrients are released from the Hydration-pak in the same manner that tea leaves in a teabag diffuse the liquor into the teapot. If the Hydration-pak is too close to the seedling plug it will supply too potent a brew and can damage the seedling. If the Hydration-pak is placed too far away, the solution is too weak and the benefits that produce growth will be lost. Second, to get the benefit of the moisture retaining polymer the roots must have easy access so that they can penetrate into it as soon as possible. Too far away from the roots and soils will dry out before they can get to it.



Spacing

Because of the moisture retaining polymer, the Hydration-pak is different from other RTI teabag products, and provides you the opportunity to do something you can't do with the other teabags: place them in the same hole as the seedling. Once swollen, the polymer acts as a buffer between the fertilizer and the seedling roots, protecting them from burning. Therefore if done carefully, and under the correct soil moisture conditions, the teabag can safely be placed quite close to the seedling plug.



Seedling roots penetrating the polymer



After two growing seasons – A mass of roots

Hydration-pak planting procedure

As per the photo below, place the seedling at one side of the hole and the Hydration-pak at the opposite side, leaving a small space of approximately 1" between the two. The space can consist of either air or soil. The slit in the ground made by the shovel should provide an easy highway for the roots to get to the Hydration-pak and for the Hydration-pak to swell towards the roots. Based on a field trial, if the teabag touches the plug accidentally it should not (but not 100% guaranteed) damage the seedling, so you will want to monitor the planters closely.

Soil conditions must be moist to wet at the time of planting. If soils are dry, the polymer can not swell and offer any protection. Given you don't want to be planting dry soils anyways, this shouldn't be much of an issue. Planting the Hydration-pak in a separate hole 1-2" away from the seedling plug can also be done, but is not recommended in dense silty/clay soils as the roots can not penetrate these soils quickly enough before they dry out to access the teabag.



Depth

Placement needs to be at least 2"-3" below the soil surface or the polymer, when swollen, will pop out of the hole. The Hydration-pak is never to be placed under the plug of the seedling or the polymer when swollen, could potentially force the seedling out of the hole. You don't however want the Hydration-pak lower than 3" as the soils are cooler at lower depth and lower temperatures will inhibit the release of the fertilizer. Tell the planters to make sure the planting hole is closed at the top but not to pack it shut.

Field Handling and Storage of Hydration-paks

Boxes should be covered during periods of rain or they can turn into mush. The plastic bags that contain 100 Planter Paks are relatively waterproof and should protect the Paks from exposure. Any product that is not used should be stored in a shed or under cover away from moisture. Heat and cold are not a problem.

Safety Information

MSDS (Material Safety Data Sheets) are available by contacting Darius Bucher of Integral Forest Management Ltd. (integralfm@telus.net).

Other Safety Information

RTI tests and monitors "Heavy Metal" content in all our products and lab reports are available upon request. A planter health study looking at potential exposure when handling teabag fertilizer has also been conducted jointly by FERIC, Work safe BC, and the Western Silviculture Contractors Association. There is little risk to planters being exposed to the fertilizer in our products if proper, common sense precautions summarized in the report are taken. Copies of the report are available by contacting Darius Bucher of Integral Forest Management Ltd. (integralfm@telus.net).

Feedback

We always welcome feedback regarding the performance of our products. Further questions can be answered by sending an e-mail to Darius Bucher of Integral Forest Management Ltd. (integralfm@telus.net). We would love to hear from you!

