

Integrate™ Improves the Lateral Movement of Water

SINGLE Drip Tape - Vertical Cross Section



Untreated area, shows ONLY 31% coverage of the soil moisture field after one hour.



Integrate 20 treated area, shows a 67% increased coverage (to 52%) of the soil moisture field after 1 hour.

the target pest, labels (Metam Sodium/Potassium) outline soil preparation recommendations prior to fumigant application which instruct; *“Soil must be in good tilth, free of large clods, and tilled, at a minimum to the depth of the treatment zone.”* Additionally, they indicate requirements for soil moisture levels prior to fumigant application. *“If there is insufficient moisture throughout the top six inches of soil immediately prior to the application, the soil moisture must be adjusted.”*

Using the recommended amounts of irrigation water ensures good fumigant distribution in soil and reduces the risk of fumigant volatilization losses. Fumigants move with the water that they are applied with, however, ***if that water does not move uniformly through the soil, neither will the fumigant!***

Additionally, by maintaining optimum moisture levels in the soil profile at increased depths, Integrate improves the tilth of the soil.

Continued on Reverse Side

Integrate* is a non-ionic, soil surfactant that has been proven to significantly increase the lateral movement of water in soils. A demonstration conducted by Dr. Bielinski M. Santos (currently with Freedom AG Research, LLC), at the University of Florida, showed how Integrate improved the movement of water in a 28” bed. Integrate improved the vertical moisture field by 68% with a single drip irrigation (see photo on left) and 37% (see photo below on right) with double drip irrigation.

In addition to moving water, it will also move whatever chemical moves through the soil when subsequent applications of water are applied.

Soil surfactants, such as Integrate, can also be a valuable tool to prepare the soil for chemical applications such as a fumigant.

For example, in order to ensure the fumigant reaches

DOUBLE Drip Tape - Vertical Cross Section



Photo depicts vertical and horizontal cross sections of a 28” bed using double drip tapes. Blue dye shows the actual infiltration and lateral movement of the moisture field using Integrate 20 vs. water alone.

Lateral Movement of Integrate 20 at work!

The addition of Integrate 20 to the soil prior to the fumigation established soil moisture at 5 inches deep and improved nutsedge control in a trial** conducted in Florida. Plots treated with Integrate 20 and metam potassium had consistently between 20 and 28% less nutsedge than plots treated with Metam Potassium alone. (see photo below).



Metam Potassium

Metam Potassium + **INTEGRATE™ 20**

** Integrate is available in a 20% and 80% active ingredient formulation.
1 gal of Integrate 20 = 1 qt of Integrate 80.*

***Contact Mark Merlo (530) 521-3228 or Engage Agro USA for complete report.*

Always read product label for complete use instructions.

Research conducted by Dr. Bielinski M. Santos. Current affiliation: Freedom AG Research LLC (bmsantos@yahoo.com).

In California, Integrate 20 and Integrate 80 have only been registered for use as an auxiliary soil and plant substance, and therefore are not approved or intended to be used in California with a pesticide product or pesticide spray mixture