

## Handouts from Heinz Piniak Presentation "All the Dirt on Dirt" April 16, 2023

HERE IS WHAT I DO TO GROW MY DAHLIAS:

1. Planting hole ~10" X 10" Approximately 10" deep visually inspect soil density and porosity.
2. Separate approximately 50% of the dug up soil in a separate container (cement mixing bin)
3. Additives to soil in bin:

OSMOCOTE PLUS B	43CC	= 1 SCOOP
BIOTONE ( FOR DIVERSITY)		2 – 3 TABLESPOONS
BONE MEAL		2 – 3 TABLESPOONS
ALFALFA	3 X 43CC	3 SCOOPS
MILORGANITE		2 TABLESPOONS
MOONURE (COMPOSTED COW MANURE)		5 CUPS

2 TEA BAGS OF PREPACKAGED  
MYCORHIZEA FROM RAINTREE NURSERY  
TOUCHING THE BOTTOM /SIDE OF TUBER WHEN PLANTED.  
OR OTHER MYCORRHIZAL AS SPECIFIED.

IF NEEDED BASED ON SOIL DENSITY ADD:  
. SAND

. MIRACLE GROW POTTING SOIL, OR PROMIX

. PERLITE

. ADD THE REMAINING SOIL FROM THE PLANTING HOLE TO FORM  
AN APPROXIMATE 2" BERM. DISCARD THE REMAINING SOIL  
. BE SURE TO MIX COMPONENTS WELL

. INSERT TUBER SO THAT THE CROWN IS COVERED BY  
APPROXIMATELY ¼" OF PLANTING MIX.

. FERTIZE ONE MORE TIME END OF JULY/EARLY AUGUST WITH  
MIRACLE GROW SHAKE & FEED , ROSE& BLOOM PLANT FOOD.  
. WATER AS NEEDED

# MYCO PAK

Complete, easy to use

Endo and Ecto

Mycorrhizal Inoculum

For Most Plants

Exceptions Include: Ericoids and Sedges

**Mycorrhizal Inoculum + Organic Biostimulants; Kelp Extracts, Humates, beneficial microbes.**

MYCO PAKS Provide a certified supply of mycorrhizal inoculant with synergistic agents to promote superior root development and health. MYCO PAKS ensure that your plants' roots are quickly colonized with beneficial microbes to protect against root pathogens. Mycorrhizae cover and extend plants' root systems 25 to 50 times for increased nutrient uptake, increased resistance to drought, less transplant shock, greater root pathogen suppression and improved growth. Spectacular growth responses have been observed in nutrient deficient soils that lack the native fungi. Good results are most likely where the soil has been fumigated, severely disturbed and in potting soils.



*Mycorrhizal fungi colonizing roots.*



**RTI**

## How do mycorrhizal fungi work?

Mycorrhizal root systems increase the absorptive area of roots 25 to 50 times, thereby greatly improving the ability of the plants to utilize the soil resource. Mycorrhizal fungi are able to absorb and transfer all of the 15 major and micro nutrients necessary for plant growth. Mycorrhizal fungi release powerful chemicals into the soil that dissolve hard to capture nutrients such as Topeka phosphorous, iron, zinc, and other "tightly bound" soil nutrients. This extraction process is particularly important in plant nutrition and explains why plants without mycorrhizae require much higher levels of fertility to maintain their health. Mycorrhizae cover a plants' roots and provide a home to a host of associated soil microbes that together suppress competition from root pathogens such as Phytophthora, Verticillium, Fusarium, Nematodes and Pythium.

## Does my soil contain mycorrhizal fungi?

Soils in natural settings are full of beneficial soil organisms including mycorrhizal fungi. Research indicates, however, many common practices can degrade the mycorrhizal potential of soil. Tillage, fertilization, removal of topsoil, erosion, site preparation, road and home construction, fumigation, invasion of non native plants, and leaving soils bare are some of the activities that reduce or eliminate these beneficial soil fungi. In many man-made landscapes we have reduced or eliminated the soil organisms necessary for plants to function without high levels of maintenance. Nursery grown plants available to landscape contractors are typically deficient in mycorrhizae. Plants raised in most nurseries receive intensive care and feeding. MYCO PAKS conveniently and quickly ensure mycorrhiza for your plants to thrive upon planting into tough conditions.



*Healthy mycorrhizal spores.*

**Book recommendation:**

