

## LITERATURE CITED

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## THE USE OF MYCORRHIZAE IN THE PROPAGATION OF ARCTOSTAPHYLOS UVA-URSI

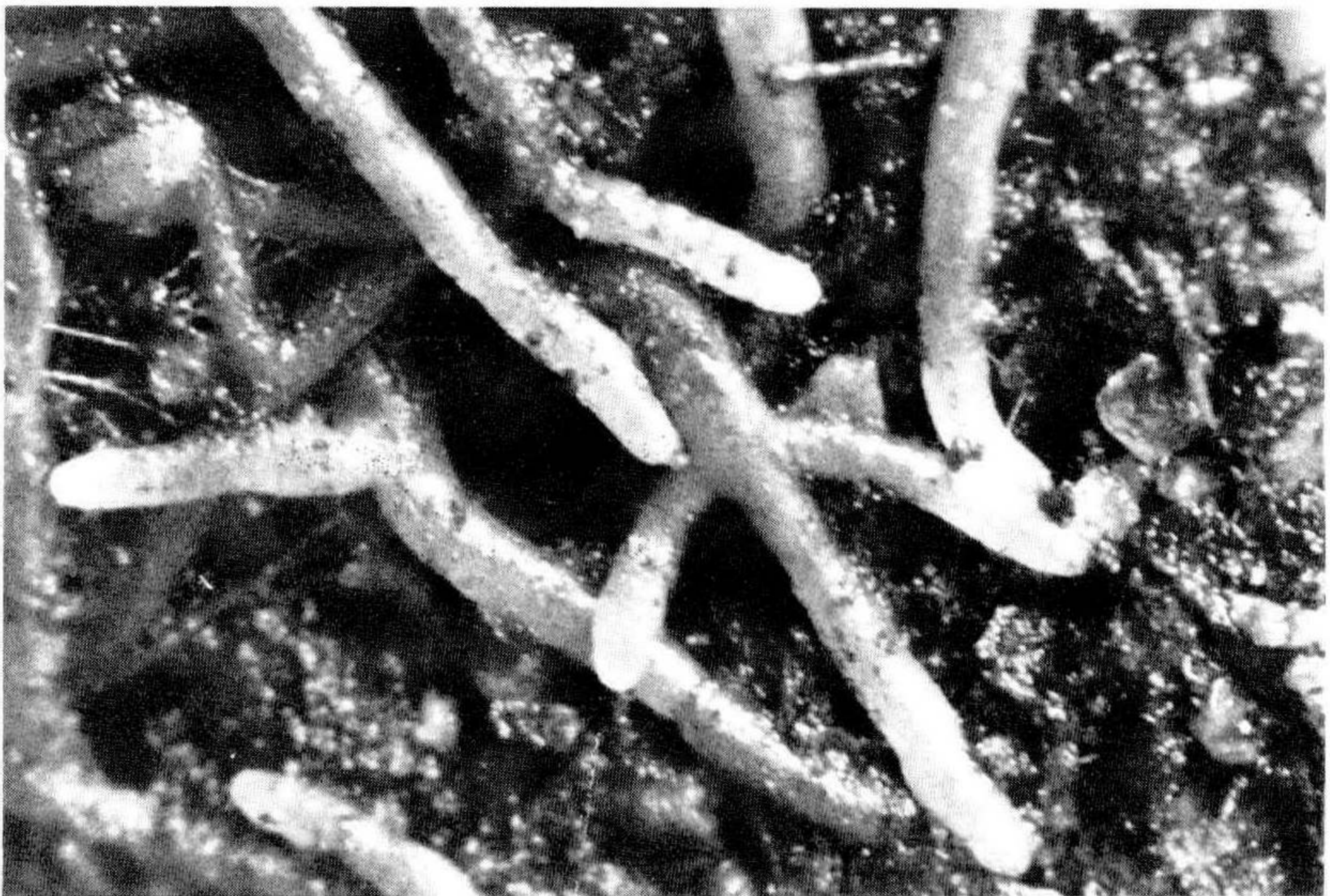
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Mycorrhizae have long been known to influence the growth of plants. The fruiting body of this interesting family of fungi has also been known to Europeans as truffles. I first became interested in the use of mycorrhizae when Dr. James Trappe of Oregon State University presented a lecture on the use of mycorrhizae at an Oregon State University Ornamental Short Course. He suggested that mycorrhizae fungi exist on most plants when they are growing out-of-doors in native soils. He also showed some very convincing slides that illustrated what happened to plants that did not have the benefit of the mycorrhizae fungi.

Taking the hint, I dug up a kinnikinnick (*Arctostaphylos uva-ursi*) plant from one of my mother blocks and took the soil and roots and put them in a small cement mixer, added water and let it run for about an hour. Then I strained the muddy water through a window screen sized sieve and sprayed the diluted solution over 50,000 rooted cuttings of kinnikinnick which had recently been potted into 2¼ in. pots. I know I took a chance, but the results were phenomenal. The growth at the end of the year was almost double of what I had been obtaining and the plants were in an extremely healthy condition. I showed the plants to Dr. Robert Linderman of the U.S.D.A. Ornamental Plant Laboratory at Corvallis, Oregon, and he confirmed that I did indeed have mycorrhizae fungi growing on the roots of nearly every plant examined. Unfortunately, this particular mycorrhizae grows partly on the inside and partly on the outside of the roots and there has been no success in propagating it when it is not associated with live roots.

I have been successful, however, in inoculating large groups of plants by cutting the mycorrhizal roots from growing plants, putting them in a kitchen blender for a few minutes and spraying the resulting liquid on plants I wished to inoculate. At this time I am inoculating cuttings in the cutting bench after they have been stuck and are starting to root. You can see mycorrhizal roots on the rooted cuttings when they are lifted from the bench about 2 months later. These mycorrhizal roots (Figure 1) are on the plants for as long as I keep them and perhaps for the life of the plants. I have noticed no detrimental effects as a result of mycorrhizal inoculation. The plants appear to grow faster, are much more healthy, and have much better transplanting percentages than uninoculated plants. I am sure that we are just on the edge of great discoveries about the use of mycorrhizae in the growing of plants.



**Figure 1.** Mycorrhizal roots of *Arctostaphylos uva-ursa*. X 180. Photo by Wm. Snyder.

## **PROPAGATION OF KALMIA**

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Collected plants of *Kalmia latifolia*, sometimes known as mountain laurel, have been used as ornamentals for many years, yet, little has been done to propagate selected cultivars in nur-