

PROPAGATION OF *ENSETE VENTRICOSUM* 'MAURELII' AT MONROVIA NURSERY COMPANY

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Ensete ventricosum, or the Abyssinian banana, is a palm-like plant which is actually an evergreen herbaceous perennial—one of the largest. The genus consists of about seven species. The apparent trunk is actually a stalk or pseudostem made up of leaf bases. The true stem begins as an underground "corm" which grows up through the center of the stalk, eventually producing the terminal inflorescence which bears the fruit. The flowers are unisexual with the flower parts of one sex in each bloom being non-functional. The female flowers are located at the base of the inflorescence.

Ensete is a member of the Musaceae family, which also includes *Strelitza*, *Ravonala*, *Heliconia*, and *Musa* (the edible banana). Abyssinian bananas were usually listed with *Musa* until about 30 years ago. They differ from *Musa* in that they do not have rhizomes (produce no natural offsets), have much larger seed (up to 1 in. in diameter), and have some technical differences in their pollen. The fruits of *Ensete* are usually only 2 to 3 in. in length, dry, and inedible. In both *Ensete* and *Musa*, each stem flowers and produces fruit only once; thereafter the stem dies. For most *Ensete*, this takes place after about five years.

Over thirty years ago, David Barry of California Jungle Gardens introduced a red leaf form which he called *Ensete ventricosum* 'Maurelii'. 'Maurelii' is a dramatic looking plant which can be used as a container or landscape specimen anywhere the temperature does not drop below 30°F.

Since *Ensete* does not produce offsets, and since this red form reportedly does not set seed (which may or may not produce red progeny), another means of propagation needed to be devised. It has been reported that the natives had developed a means of forcing shoot growth from the stumps, but I have no further information on this. At Monrovia Nursery, I have traced the propagation of *Ensete ventricosum* 'Maurelii' back to the early 60's when Conrad Skimina began to produce them in much the same manner as I will discuss. What I will describe here is the method we now use to induce and root shoots from stumps of large plants.

We grow stock plants in #15 containers for one year. During December or January, these plants are cut off at about one foot above the soil line. All of the remaining leaf bases are then carefully peeled away exposing the stump ("corm"), which is normally 6 to 8 in. in diameter. The center portion of this stump is then removed

with a knife, eliminating the growing point. The plants are then placed in a warm greenhouse with a 68°F night temperature.

After about five weeks, a ring of callus tissue forms, grows, and eventually produces protocorm-like buds which develop into plantlets or shoots. When these shoots are 5 to 6 in. in height, they can be removed with a knife and rooted directly into 2 in. pots. A small amount of callus tissue is removed with each shoot. The 2 in. pots are placed on a greenhouse bench and hand misted (3 to 4 times per day) until rooting occurs (3 to 4 weeks). No hormone is necessary. This process is repeated as long as the stump continues to produce shoots. We normally can continue removing shoots until about May when the stump finally weakens and dies. Approximately 100 to 150 plantlets may be obtained from each stump.

A similar method was reported in the IPPS Proceedings, Volume 27 by Donal Duthie (1). Her technique involved barerooting the stumps and packing them in containers of sphagnum moss.

The major problem with this method is scheduling. We would like to have the plants saleable in #1's by May; however, these plants do not "make" until about July in #1's and September in #5's. For this reason, we are working on tissue culturing *Ensete ventricosum* 'Maurelii' but are not ready to report on that today, except to say that it looks very promising.

LITERATURE CITED

1. Duthie, D. 1977. Propagation of *Ensete ventricosum*—(*Musa ensete*)—purple form. *Proc. Inter. Plant Prop. Soc.* 27:329–330.