

agricultural lime per yard. Certain species are also rooted with our sand/perlite mix. The coir mix gave us another opportunity to improve our rooting percentages and root quality on hard-to-root species and those species that require a greater length of time to root. The Sun Gro Horticulture coir/perlite mix was very successful on *Syringa*, *Magnolia*, *Viburnum* (fragrant), *Rhus*, and *Berberis* to mention a few. Many species rooted up to 3 to 4 weeks quicker in the coir mix than our propagation mix, allowing those cuttings to be transplanted earlier.

The coir and perlite mix was a bit more costly than our "in house" propagation mix. However, the rooting response that was achieved outweighed the extra expense. The coir fiber is also sold in bulk, as a compressed brick, so it is possible to make your own mix. It has been reported, however, that this "raw" material is very difficult to break up and mix with other components, such as perlite. It is more economical to purchase it as a commercial mix such as the coir and perlite (3 : 1, v/v) that we used in our trials. Many other formulations, using different media components are commercially available as well.

Cocount-Coir-Based Media Versus Peat-Based Media for Propagation of Woody Ornamentals

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This trial was conducted in order to determine if coconut-coir-based media makes a significant difference in the propagation of *Juniperus* versus the standard growers media containing peat.

INTRODUCTION AND METHODS

Woody ornamentals such as the *Juniperus* species, have several that are both easy and difficult to root. One cultivar from each of these two categories was tested. Several varying amounts of coir were used in the media trials. Each medium contained a different amount of perlite.

The media were as follows:

- MetroMix and perlite
- Coconut coir
- Coconut coir and perlite (3 : 1, v/v)
- Coir and perlite (1 : 1, v/v)

The juniper cuttings were stuck and rooted for approximately 10 weeks. After this time, the cuttings were evaluated for root growth. They were removed from their trays and the medium was washed off. Cuttings were divided into three groups: no callus, callous only, and callous and roots.

RESULTS

The results were impressive. The rooting that was planted in the peat-based standard media and coconut-coir-based media were more successful. 'Maney' had

Table 1. Effect of media type on the rooting of *Juniperus chinensis* 'Maney'.

Treatment	Uncallused	Callused only	Callused and rooted
Standard	67	30	3
Coir (100%)	15	79	6
Coir (75%) + perlite (25%)	37	43	20
Coir (50%) + perlite (50%)	35	35	30

Table 2. Effect of media type on the rooting of *Juniperus horizontalis* 'Hughes'.

Treatment	Uncallused	Callused only	Callused and rooted
Standard	20	7	73
Coir (100%)	3	17	80
Coir (75%) + perlite (25%)	1	24	75
Coir (50%) + perlite (50%)	3	32	65

a 100% increase in the number of cuttings with callous and root formation (Table 1). The highest percentage with callus and roots was 30% for *J. chinensis* 'Maney'. This was exceptional being this is a difficult species to root. In the *J. horizontalis* 'Hughes' cultivar the increase ranged from 80% typically rooted to 97% with callus and roots (Table 2).

Perlite seems to have a varying effect on the rooting of junipers. In the difficult-to-root 'Maney', the perlite and coir medium (1 : 1, v/v), appears to have the best rooting percentage. With 'Hughes' the 100% coir without perlite had the highest percentage of callus and roots alone. Therefore, the level of perlite added to the medium makes an impact with the different cultivars.

CONCLUSION

This trial took place during the winter months with a rooting temperature of 75°F and an air temperature of 40°F. These results could vary during the other seasons. Perlite level influenced the rooting of the cultivars and should be looked at in more detail. Coconut coir did increase the rooting of these juniper cultivars. More trials should be conducted to determine the right level of coconut coir. The end result could make a positive impact in the production of woody ornamentals.