COMPARISON OF PEAT SOURCES
AND GROWING MEDIA

FINAL REPORT

R.G. Matthews 1983
TITLE Comparison of Peat Sources and Growing Media

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Objective

Growth of seedlings in alternate peat sources was compared to standard baled peat moss supplied by Fisons-Western. Proprietary soil mixes were compared to the soil medium used in Ministry nurseries.

Experimental Design

Each treatment consisted of 3 PSB 211 Styroblocks. Seedlots tested were spruce 1831 and lodgepole pine 2620.

Treatment 1 (control) and all pure peat sources were mixed 3:1 peat-vermiculite containing 3 kg/m³ 12 mesh and finer dolomite lime. Fertilization followed production schedules using Green Valley soluble fertilizers.

Treatment 1 3:1 Peat-vermiculite using Fisons-Western baled peat (Delta source).

Treatment 2 3:1 Peat-vermiculite using Fisons-Western bulk peat (Delta source).

Treatment 3 3:1 Peat-vermiculite using Fisons-Western baled peat (Manitoba source).

Treatment 4 3:1 Peat-vermiculite using Langley Peat North retail grade baled peat (Alberta source).

Treatment 5 3:1 Peat-vermiculite using Langley Peat North select grade baled peat (Alberta source).

Treatment 6 3:1 Peat-vermiculite using Black Diamond baled peat (Grindrod source).

Treatment 7 Fisons-Western soil mix (Manitoba source).

Treatment 8 Fisons-Western soil mix (Delta source).

Treatment 9 W.R. Grace Forestry mix (Delta source).

Observations were made of general vigour and color. Samples were assessed for dry weights at the end of the growing season.
Results

Bar graphs of final dry weights are attached. During the growing season, growth in the Manitoba and Alberta source peats was more vigorous and darker green than other treatments. Color was darker green in treatments 1-5 compared to the proprietary soil mixes.

Conclusions

Many seedlings were lost to weed competition in the Black Diamond peat, therefore this should no longer be considered as a possible peat source.

In pine, the observed differences in vigour and color were evident in final heights produced and to some extent in the root weights. All root weights were good, with the heaviest roots being produced in the Langley Peat North retail grade from Alberta.

In spruce, all root weights were low due to outdoor growing conditions. Among the heaviest roots produced were the Fisons-Western proprietary mix using Manitoba peat and the control, Fisons-Western Delta source peat.

The chemical and physical properties of these sources of Alberta and Manitoba peat are suitable for conifer seedling production. This trial and observations in commercial nurseries indicate that either should be accepted for use in Ministry container nurseries. The standard peat up to now has been Fisons-Western from Delta. As this is no longer being baled, it would be more difficult to use in container crops. Fisons-Western is now specially screening their Manitoba peat and hope to market this source of baled peat for container use.

Commercial soil media would seem to be a reasonable choice for nurseries not owning soil mixing equipment. The amount and type of lime should be specified and custom blended. W.R. Grace is now using Langley North peat in their Forestry mix.

G. Matthews
RNX: 82207Q
Nursery: PFRC
Seedlot: SI 1831
Reg. No.: 5080 93L15/82/1831/0.94
Facility: Shadehouse
Sown: April 28, 1982
Misc.

Random Sample Height
Static Sample Height
Root Collar Diameter

Height (cm)

Top Weight
Root Weight

Top Weight (g)

F.S.: 734

Treatment
1  2  3  4  5  6  7  8  9