

COST OF BIRCH PRODUCTION BY OPERATIONS (1965)

AVERAGE DISTRIBUTION:
DIRECT LABOR - 24.5 %
OVERHEAD - 61.5 %
MATERIALS - 3.6 %
MISC. - 7.4 %

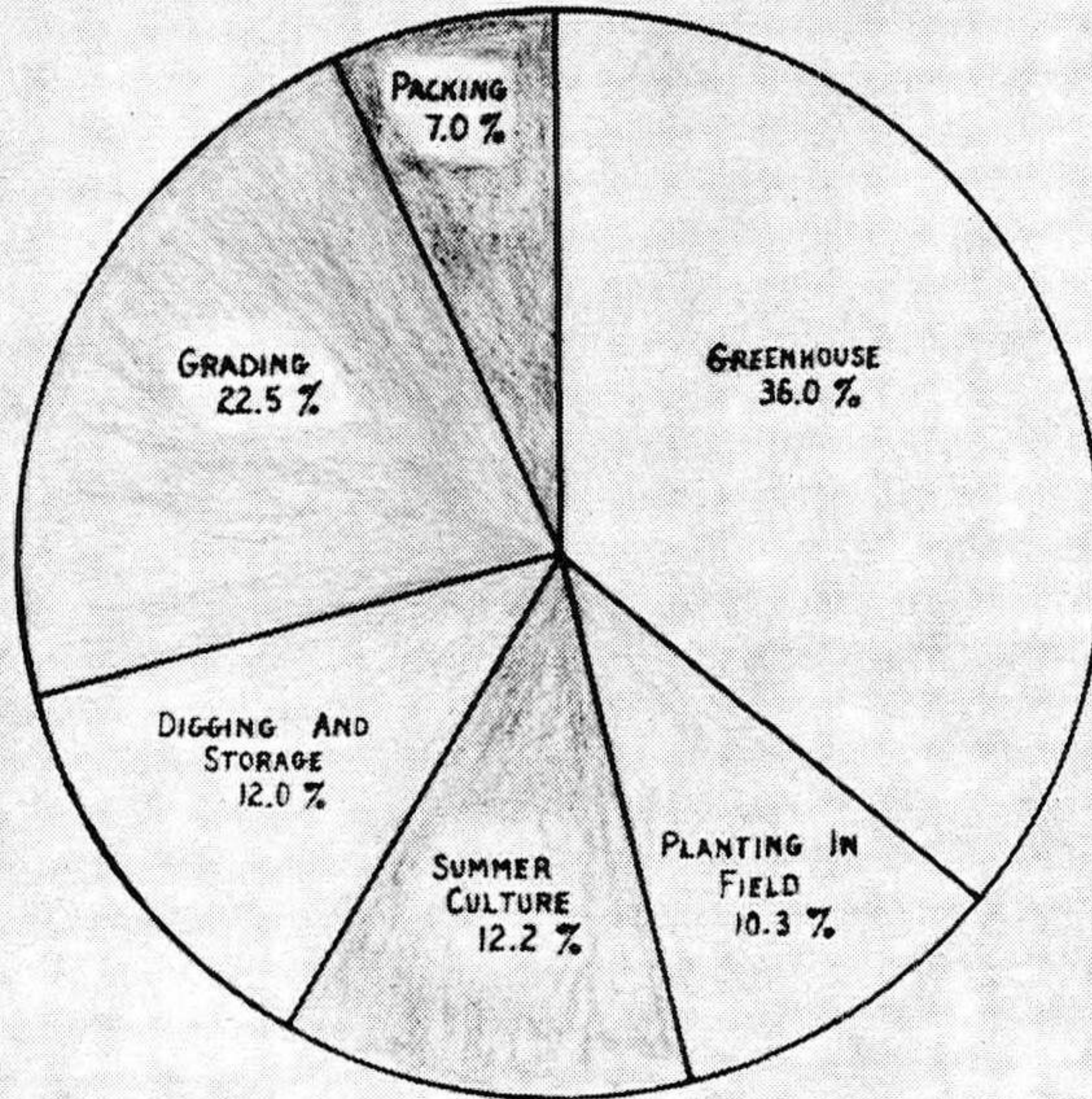


Figure 5.

MODERATOR HESS: Thank you, Tom, for an outstanding paper. Our next speaker is well known to all of us and is the father of President Pete. It is a real pleasure to introduce John Vermeulen.

PROPAGATION OF RHODODENDRON UNDER OUTDOOR MIST

JOHN VERMEULEN
John Vermeulen & Son, Inc.
Neshanic Station, N. J.

This topic was on the list of suggestions and as we had some limited experience in this field for 2 or 3 years I offered to tell you what little I know.

For some years we had given up the propagation of Rhododendron from cuttings as it interfered with other items to be propagated in October-November. But 4 years ago I was asked to trim some Rhododendron Mrs. C. S. Sargent in early

July. There were a number of very nice cuttings on those plants so I could not just throw them away but took them home. It was a very hot day and we had no ice or anything to keep them fresh. We picked out about 100 cuttings, made them and put them in flats under outdoor mist. The result looked very poor after a few weeks so I lost interest in them but when in late October I came to clean out the frame I found about 50% rooted.

This helped me make up my mind to try again the following summer. We again made about 100 cuttings of Mrs. C. S. Sargent which, by the way, is one of the more difficult varieties. We gave it better care and got a 65-70% stand. Then we decided to go a little better in 1965 and we put in about 900 cuttings in 20 or more varieties. Very good care was taken of these and the result was 90-95%. These cuttings were put in flats in 50% peat and 50% fine perlite so we had to pot them after rooting during the winter months. They were not all the very easy to root varieties as they included Mrs. C. S. Sargent, General Grant, Dr. Dresselhuys, Charles Dickens, etc.

So here was the 1966 summer coming on and we extended the amount of cuttings to about 6,000. We also changed from putting them in flats to sticking them directly into 3½" peatmoss pots, 18 to the flat, so transplanting would not be necessary.

We also had to make a change of location as our outdoor bed did not give us enough room to put them there. We put them on top of a bench in the greenhouse which had no glass but a protection of Saran cloth. However this has cost us a loss of about 12% of our cuttings. The reason of this is that there was more drift of the mist and we were using our oldest misting set up so we were constantly troubled with clogging nozzles and through this we did not get proper coverage. It is a must that mist is 100% available at all times for all cuttings, even so we have an 82% stand. We ran from 55% in poorly misted cuttings to 98% in others. We also put in some cuttings 3 weeks later in flats under outdoor mist in our ground beds. The result — 95%. The reason, better mist coverage.

The powder we used is 50%, 4% I.B.A. and 50% 4X CUTstart and 1/16 PHYGON or any good fungicide.

VOICE: Why do you use the fine grade of perlite?

JOHN VERMEULEN: We feel the coarse grade provides too much aeration and if the liner is planted in a heavy soil it will not become established as well as it would if it was in a fine grade of perlite.

JIM WELLS: How did you wound your cuttings?

JOHN VERMEULEN: With a razor blade in a holder. You can make a very fine wound.

AL LOWENFELS: What hormone did you use?

JOHN VERMEULEN: We used what is known as Germain

LIST OF VARIETIES AND RESULTS

	Stuck	Rooted	Not Rooted	Dead
Dr. Dresselhuys	252	138	66	48
Catawbiense Grandiflorum	108	80	18	10
Parsons Gloriosum	54	51	3	—
Atrosanguinea	108	94	8	5
Purpureum Elegans	252	240	12	—
General Grant	106	96	8	4
Boule de Neige	252	192	17	43
Fortunei #1	103	102	—	1
E. S. Rand	108	36	34	38
Mrs. C. S. Sargent	108	60	22	26
White Gem	108	108	—	—
Van Weerden Poelman	108	108	—	—
English Roseum	252	243	—	9
Charles Dickens	108	101	6	1
Catawbiense Alba	252	251	—	1
Roseum Elegans	252	223	15	14
Ignatius Sargent	124	70	13	41
Scintillation	54	54	—	—
Cunningham White	105	91	—	14
Charles Bagley	234	200	20	14
Everestianum	36	34	—	2
H. W. Sargent	90	75	12	3
F. D. Godman	139	90	15	34
Lee's Dark Purple	252	170	57	25
Smirnowi	36	36	—	—
Mrs. P. Den Ouden	108	95	9	4
Caractacus	252	167	33	52
Roseum Superbum	108	84	4	20
Catawbiense Boursault	108	104	4	—
Dr. Rutgers	146	118	3	25
Nova Zembla	630	556	33	38
America	612	378	132	102
Gloxiosa	16	12	4	—
Seedlings #1, Red	54	43	6	2

powder. We got the material from a brick layer or plasterer in Philadelphia who was an amateur propagator. His name was Germain. The mixture is one part 4% IBA mixed with 1 part 4X Cutstart and 1/16 part phygon or other fungicide. It doesn't burn.

CASE HOOGENDOORN: Don't you get bud inhibition by using such a strong hormone?

JOHN VERMEULEN: We cut out the center buds, most of them are flower buds anyway. But we do get good strong growth with no inhibition.

AL LOWENFELS: When do you take the cuttings?

JOHN VERMENLEN: In July. Roughly around the second week in July. The wood is just about sturdy.

MODERATOR HESS: Thank you very much, John, for a paper which stimulated much interest. Our next paper on the propagation of *Carya illinoensis* will be given by Booker T. Whatley. Booker is the head of the Horticulture Department at Southern University and, I am proud to say, a Ph.D. graduate from Rutgers University.

PROPAGATION OF CARYA ILLINOENSIS (PECAN) FROM CUTTINGS

BOOKER T. WHATLEY, STANLEY O. THOMPSON

AND JACK H. JEFFERSON

Southern University — Baton Rouge, Louisiana^{1 2 3}

The pecan, *Caryo illinoensis*, is propagated commercially by budding or grafting on seedling rootstocks. There are three major disadvantages encountered when one grafts or buds varieties onto seedling rootstocks:

1. Considerable time and expense are involved and often with only moderate success.
2. Seedling rootstocks have a tap root with a few lateral fibrous roots. This characteristic has been associated with poor survival of transplanted trees.
3. Each seedling rootstock has the potential of being genetically different.

The need for an improved method of propagation of pecan has, therefore, been recognized for some time.

There appears to be only three published reports in American Horticulture literature that deal with the propagation of pecans by cuttings. Stoutemeyer (5) rooted dormant Green-river pecan cuttings by pre-callusing and treatment with indolebutyric acid (IBA); no report was given on whether the rooted cuttings were transplanted. Gossard (1) reported the rooting of pecan softwood cuttings under continuous mist. None of the rooted cuttings survived when transplanted (2). Sparks and Pokorny (4) studied the effects of wound treatments and root-inducing chemicals on rooting of terminal pecan cuttings taken at four different dates. These investigators reported that:

1. Rooting was inversely related to the maturity of the terminal.
2. IBA plus a light wound gave the highest rooting percentage.

¹This work was supported in part by a grant from the Society of the Sigma Xi and RESA Research Fund

²The authors express their appreciation to Dr. Barton R. Farthing, Professor and Head, Department of Experimental Statistics, Louisiana State University, for his advice and assistance regarding the experimental design and statistical analysis

³The authors express gratitude to Dr. Robert J. Herschler, Crown Zellerbach Corporation, Camas, Washington for the supply of DMSO and the Bark Paint

⁴Appreciation is expressed to Mr. Simuel W. Austin, Assistant Professor of Photography, Southern University, for photographic assistance