CONFIDENTIAL

Copy No. 7

NATIONAL RESEARCH COUNCIL OF CANADA

PROCEEDINGS

OF THE

SIXTH MEETING

OF THE

SUBCOMMITTEE ON FOREST TREE BREEDING
ASSOCIATE COMMITTEE ON FORESTRY

PETAWAWA FOREST EXPERIMENT STATION

29 SEPTEMBER, 1941

CONFIDENTIAL

NATIONAL RESEARCH COUNCIL OF CANADA

PROCEEDINGS

OF THE

SIXTH MEETING

OF THE

SUBCOMMITTEE ON FOREST TREE BREEDING
ASSOCIATE COMMITTEE ON FORESTRY

PETAWAWA FOREST EXPERIMENT STATION

29 SEPTEMBER, 1941

NATIONAL RESEARCH COUNCIL

P R O C E E D I N G S

of the

Sixth Meeting

of the

SUBCOMMITTEE ON FOREST TREE BREEDING

Held at the Pathological Laboratory, Petawawa Forest Experiment Station, Chalk River, 29 September, 1941.

Present:

Members: Mr. D. Roy Cameron, (Acting Chairman)
Dr. N. H. Grace
Mr. D. E. Gray
Dr. C. Heimburger
Mr. M. B. Morison
Mr. C. G. Riley
Dr. L.P.V.Johnson (Secretary)

Visitor:
Dr. A. J. Skolko

- -

68. Minutes — The Minutes of the Fifth Meeting were read and approved after being revised at the suggestion of Dr. Heimburger to include the following addition to Minute 65: "Dr. Heimburger also discussed a number of successful poplar crosses which he had made, and outlined some of his work on the storage of hardwood cuttings. He also emphasized the importance of a Fall meeting as a medium of discussing research plans for the winter."

69. Fall meeting — After Dr. Heimburger had referred at some length to his previous discussion of the desirability of a fall meeting (see Minute 68), Dr. Grace moved that a meeting be held late in November primarily for the purpose of formulating and co-ordinating research plans for the coming winter.
Seconded by Mr. Morison. Carried.

70. Experiment on sugar maple

Dr. Johnson outlined his studies on the genetic variability for sugar production in the sugar maple (see II-A-1, Appendix "C", Proceedings of the Fifth meeting). He explained that the work had been undertaken without referring the matter to the subcommittee because the project was considered to be relatively unimportant, and since the work could be done during a slack period the question of priority did not enter in. Dr. Johnson said that he would like an expression of opinion on the project from the meeting.

Mr. Morison did not consider the maple sugar industry as being directly related to forestry and said that, in any case, it was a relatively unimportant industry.

Dr. Johnson said that the maple sugar business appeared to be generally considered a forestry industry. He went on to point out that there was great popular interest in this industry, which would tend to counterbalance its relatively low commercial importance.

Mr. Cameron stated that he considered the maple sugar business as a forestry industry. He then raised the question of the function of the subcommittee in determining the research program. He felt that, since the maple sugar study under discussion was a departure from established work, Dr. Johnson should have consulted the members of the subcommittee through a special meeting or by telephone before undertaking the work.

Mr. Riley was strongly opposed to any restrictions on the individual worker's authority to undertake new work.

Dr. Heimburger felt that the members should have been consulted, as Mr. Cameron suggested.

Mr. Cameron pointed out that there had been wide deviations from the original plan of concentrating on highly important genera, such as spruce and pine.

Dr. Johnson, with support from Mr. Riley, developed the point that in setting up a priority list for breeding work the order of commercial importance among forest trees would have to be modified in the light of the applicability of breeding methods to the different genera.

71. General breeding work

Dr. Johnson briefly outlined his activities since the last meeting. Hybridization work was carried out on elm, birch, larch, oak, ash and pine. A report of studies on the relation of growth rate to wood quality in populus hybrids was in the press. A great proportion of the time was spent in developing new facilities and equipment at the National Research Council Annex.

72. Co-ordination of work

Mr. Cameron said he believed there was a tendency for the Research Council to set up its own facilities and to conduct its experiments as an independent unit. He feared this would lead to reduced co-operation with the Petawawa station and would perhaps result in duplication of work.

Dr. Johnson replied that the facilities being developed at the National Research Council Annex would not supplant facilities at Petawawa. All available facilities at both places would be used for breeding work. The new facilities at the Annex were designed (1) to meet the requirements of breeding work and materials which, because the location of the greenhouse and year-round laboratories at Ottawa, could best be handled at Ottawa; (2) to provide irrigation and other cultural refinements for valuable hybrid stock; and (3) to provide a disease garden which it was felt should not be located in a forest region such as the Petawawa experimental area. Dr. Johnson explained that any supposed lack of interest on his part in the work at Petawawa was due to the necessity of concentrating on the Annex development this year. The work was receiving splendid current support, but there was no assurance that such support would be available next year. With reference to co-operative and co-ordinated research at the two places, Dr. Johnson felt that, since the facilities at each station had been developed for specific purposes, there should be no confusion as to which place any particular material should be grown; and that discussion of research plans at the subcommittee meetings as well as free intercourse between workers should provide the necessary co-ordination. Dr. Johnson invited members to visit the Annex development at their earliest convenience.

Mr. Cameron said that it should be the function of the subcommittee to see to it that the facilities at both stations were utilized to best advantage. He proposed to visit the Annex in the near future.

73. Report on Pathology

Mr. Riley and Dr. Skolko gave brief reports on their activities at Petawawa, and elsewhere, during the summer.

Testing the disease resistance of available poplar material is being continued along the same lines as in previous years. Inoculations with Septo.ia on a large scale have proved highly satisfactory.

The poplar materials in the upper nursery at Petawawa have been inspected for incidence of diseases occurring through natural infection.

Seedlings of Douglas fir were inoculated with Phaeocrytopus (Adelopus) Gaumanni to test them for resistance to needle-cast disease. The results of these inoculations will not be evident for one or two years.

Two trees of known susceptibility to white pine blister rust were marked for cuttings. These cuttings are to be used as checks in testing for the disease resistance.

The Pointe Platon white pine plantation was re-inspected by Mr. A. W. McCallum, who selected and tagged five trees which he considered to be the most promising with respect to blister rust resistance and general form. Late in the summer cuttings had been obtained from three resistant trees and certain suspectible trees in this plantation.

Dr. Johnson said that he believed that it would be worthwhile to make a special trip to Pointe Platon for the purpose of making a more extensive collection of cuttings as well as seed collections from the resistant trees. He pointed out that Dr. Heimburger and he had both received so-called rust resistant white pine material from a number of American scientists, and that in addition to our own requirements we should have material to send to these workers.

The meeting agreed that Dr. Johnson, accompanied if possible by Dr. Heimburger, should make a trip to Pointe Platon early in September.

74. Need for an additional pathologist

Dr. Heimburger asked Mr. Riley if it would be possible for his staff to give more time to the pathological work of the subcommittee which was rapidly expanding, and if the present staff could not keep pace with this work would it be possible to increase the staff next year?

Mr. Riley replied that it was probable that they would not be able to devote even as much time to subcommittee work next year, and that to his knowledge there was no prospect of additional assistance.

Mr. Morison said that there was also need for more pathological work in the general silvicultural work at the Station. Mr. Morison then moved that an effort be made to obtain the services of an additional pathologist to assist in the work of the subcommittee and of the Petawawa Station generally. Seconded by Mr. Riley. Carried.

75. Recommendation of Mr. Gray for membership

The chairman called for a report of entomological work, and Dr. Johnson asked permission to read a letter from Dr. Atwood before the report was given. In the letter Dr. Atwood submitted his resignation from the subcommittee. He gave as reasons for resignation the fact that his work had little direct relation to the work of the subcommittee, and that his summer headquarters at Laniel, Que., did not permit active participation in the breeding program. He also pointed out that the work of Mr. D. E. Gray was closely related to some phases of the breeding program, and that Mr. Gray was stationed at the Petawawa Station. He therefore suggested Mr. Gray's appointment to the subcommittee.

Mr. Morison moved that Mr. Gray be recommended for appointment to the subcommittee. Seconded by Dr. Johnson. Carried.

76. Report on entomology

Mr. Gray said that his work at present was related mainly to the white pine weevil, especially the effect of thinning on weevil damage. He was co-operating with the subcommittee in studies on apparently weevil-resistant trees.

Dr. Heimburger said that it might be possible to combine resistance to weevil and rust in a single white pine. Dr. Johnson thought this ideal might be difficult to attain but that the problem warranted considerable attention.

77. Report on vegetative propagation

Dr. Grace said that although the loss of Mr. Farrar, who joined the R.C.A.F. in the spring, and the pressure of other work had created a serious problem, propagation work was going ahead essentially as outlined in the spring (see IV - Appendix "C", Proceedings of the Fifth meeting). Great credit for the favourable situation is due to Dr. Heimburger who has done a great deal of work at Petawawa during the summer.

78. Breeding of Christmas trees.

Mr. Morison said he believed that valuable work could be done in improving the balsam fir for the Christmas tree trade. Work on branchy types of red pine might also be useful.

Dr. Johnson said that the breeding method would probably be to propagate desirable types by seed or cuttings.

Mr. Gray stated that the cost of production of Christmas trees might be reduced by interplanting in ordinary plantations.

79. Time devoted to vegetative propagation

Dr. Heimburger asked Dr. Grace to indicate how much of his time would be available for vegetative propagation work during the next year. Dr. Grace replied that only a small proportion of his own time could be devoted to this work, and there were several publications to be prepared from data already compiled. However, it is expected that a laboratory assistant will be available for greenhouse experiments during the winter.

Discussion by Dr. Grace, Dr. Heimburger and Dr. Johnson indicated that it would be possible to co-operate in carrying on the propagation work, thereby overcoming many of the difficulties arising out of the reduction in staff. It was agreed that greater emphasis should be placed on hardwoods. Dr. Johnson stated that he had in mind two experiments, related to practical production propagation, which he was prepared to undertake during the winter. These experiments were described as "Experiments on heeling-in of hardwood cuttings with special reference to heeling-in media and temperatures, and to time of collection of cuttings" and "Experiment to determine when dormancy breaks in the flower and leaf branches of common hardwoods".

The meeting adjourned.

DISTRIBUTION LIST

Copy No.	Name
1	Dr. R. Newton (Chairman)
2	Mr. D. Roy Cameron
3	Dr. N. H. Grace
4	Mr. D. E. Gray
5	Dr. C. Heimburger
6	Dr. L.P.V.Johnson (Secretary)
7	Mr. M. B. Morison
8	Dr. F. H. Peto
9	Mr. C. G. Riley
10	Mr. W. M. Robertson
11	Dr. H. A. Senn
12	Dean C. J. Mackenzie
13	Mr. S. P. Eagleson (Office Copy)
14	Mr. S. J. Cook (Board Room Copy)
15	Dr. J. M. Swaine
16	Mr. J. L. Farrar
17	Mr. A. W. McCallum
18-22	Reserve Copies