

GOOD RESULTS FROM INSTRUCTION ACT SHOWN BY REPORT

*Rural and Domestic Science
and Agriculture now Taught
in Public and High Schools
throughout Dominion.*

HOW ACT HAS HELPED

A full account of the progressive work carried on by the provinces of the Dominion with the assistance of the grant allocated to them under the Agricultural Instruction Act is given in the report on the Act for 1917-18, presented by W. J. Black, Commissioner under the Act, and issued recently by the Department of Agriculture.

The leading branches of work conducted are elementary agricultural education, including agricultural teaching in schools, vocational schools of agriculture, local short courses in agriculture and household science, and school and home gardening; co-operation and marketing, farm management surveys, soil surveys, and women's work, which includes women's institutes, home economic societies and homemakers' clubs, as shown by the report.

It is shown that good progress has been made throughout Canada in elementary agricultural education. In the province of Ontario there are 950 schools conducting classes in agriculture. The Ontario Education Department intends to maintain a strong course in agriculture in the normal schools, in order to make the teaching of agriculture effective. The special object of this course is to prepare the teacher-in-training to train pupils for farm occupations, and to broaden and deepen their interest in nature and their sympathy with rural life, according to the report. The following topics, with some attention to teaching the subject, are taken: Dairying, poultry, breeds of farm animals, field crops, horticulture, birds and insects, experimental plots, school and home gardens, and care of school grounds. A summer course in agriculture for teachers is held each year by the Department of Education at the Ontario Agricultural College.

HOUSEHOLD SCIENCE.

The report states that a movement is under way in Ontario to extend the teaching of household science in the public schools. In drawing attention to the need for introducing domestic science instruction into these schools, the report mentions the fact that it was found that the percentage of physical defectives as disclosed by the draft was 7 per cent higher from rural districts than from towns and cities, in the United States, and expresses the opinion that it is probable that the same conditions exist here, suggesting that these conditions are due partly to improper nourishment. Where domestic science is taught in schools, cooking is done for demonstration purposes and hot luncheons are served to the pupils at noonday.

In Quebec, it is stated, the official programme of the Roman Catholic schools of the province prescribes the teaching of the elements of agriculture from the third to the eighth year, inclusively. The teaching is based on the official text book on agriculture, with the assistance of the school museum, and very generally by the school garden. Some twenty thousand pupils perform school or home garden work. Teachers are given training in agriculture at the twelve Normal Schools, at all of which demonstration gardens are provided, and in many instances, a model poultry plant. Instructors of the Quebec Department of Agriculture give demonstrations in horticulture, fruit growing and poultry rearing to the students. There were in the province in 1917, 850 school gardens cultivated by 20,000 children. In this development Agricultural Instruction Act funds have greatly assisted, the report states.

In Saskatchewan, agricultural instruction in some form appears in the course for each grade in public schools and is

compulsory in the examination to qualify for entrance to high schools and collegiate institutes. In the public schools the work consists of nature study, school gardening and elementary agriculture. In about one-third of all the town and village schools of the province, as well as in those of the cities, household science is taught, as shown by the report. Agriculture is also taught in the high schools of the province.

"In British Columbia," the report continues, "elementary agriculture is regarded by the educational authorities as occupying a dual position in the training of boys and girls, (1) for its own sake as a preparation for practical work in farming, (2) for the broader educational or disciplinary value. The agricultural work of the public schools, which includes the entire programme of nature study and school gardening is the logical antecedent of a more scientific study of agriculture in high schools. In 1917, 283 schools gardens and 211 home plots were conducted."

In Nova Scotia 200 schools are doing special work in elementary agriculture, each with a school garden for demonstration purposes. Under the auspices of the schools, 4,176 home gardens were cultivated in 1917. New Brunswick has also made considerable progress in public school agricultural instruction. In Prince Edward Island the teaching of rural science including elementary agriculture, is compulsory in the public school. The tendency in the school work of this province is decidedly in the direction of home garden and other home project work, the report states.

The report summarizes the work done under the auspices of the Agricultural Instruction Act, in school fair movements, boys and girls clubs, and in vocational schools of agriculture in the various provinces. It is evident from the report that excellent progress has been made.

LENGTHEN LIFE OF RAILWAY TIES BY PRESERVATIVE

*Laboratory Experiments by
Forestry Branch Described
in Bulletin carried on for
purpose of finding Better
Methods.*

NEW TREATMENT USED

Canadian railroads prior to the war consumed twenty million railroad ties a year and this drain on the timber resources of the Dominion has led to an investigation by the Forestry Branch for the purpose of finding out efficient ways of treating timber used for this purpose, with preservative with a view to lengthen in the life of the railroad tie in service, according to officials of the Forestry Branch of the Department of the Interior. These experiments have been carried on by the Forest Products Laboratories of Canada, maintained by the Forest Branch, and the results are shown in a bulletin just issued by the branch entitled "Creosote Treatment of Jack Pine and Eastern Hemlock for Cross Ties," prepared by W. Kynoch, B.Sc., F.E., and J. A. Coderre, B.A., F.E., with a contribution from J. S. Bates, Chem. E., Ph.D. Superintendent, Forest Products Laboratories of Canada. This bulletin, which is known as Forestry Branch Bulletin No. 67, may be obtained by applying to the Forestry Branch, Ottawa.

The bulletin explains that the principal native timbers used for the purpose of railway cross-ties in the eastern part of the Dominion at the

present time are in order of importance: jack pine (*Pinus Banksiana*); eastern cedar (*Thuja occidentalis*); eastern hemlock (*Tsuga canadensis*); tamarack (*Larix laricina*); and the several species of eastern spruce. In addition to these, there is a small consumption of birch, maple and beech ties. For renewals alone, eight or ten million ties are required yearly by the Canadian railways.

Ties in service are subject to both wear and decay, but it is asserted that in a majority of cases the primary cause of the removal of a tie from service is decay. Therefore the importance of treating ties with preservative oils to arrest decay is apparent, as shown by the bulletin.

FUTURE SUPPLY OF TIES.

On the subject of a future supply of railway ties, the bulletin states that preservative treatment is absolutely necessary in the case of hardwood ties, which decay rapidly otherwise.

"Of the coniferous tie timbers, eastern cedar ranks highest in regard to natural durability and lowest in regard to mechanical qualities," the bulletin says, "In regard to tamarack, the available supply is small, and is rapidly being exhausted, much of the timber now cut being obtained from dead trees. The ravages of the larch sawfly largely account for this state of affairs. With regard to jack pine, hemlock and the spruces, there is no doubt that an efficient preservative treatment would result in considerable financial saving to the railways. Further, when it is considered that jack pine and hemlock together constitute over 50 per cent of the total number of ties annually used in eastern Canada in ordinary years, the reduction of the drain on forest resources which could be brought about by materially increasing the life of these ties, is of considerable importance to the country at large."

The bulletin describes the characteristics of hemlock and jack pine, and gives tables showing their strength and durability. A detailed account is given of the experiments carried out in impregnating the timber with coal tar creosote oil.

A special method of treating jack pine and eastern hemlock was used, that of making small holes in the timber before impregnation, with a view to facilitating penetration and distribution of the preservative. It was found by incising timber in this way every unit in a charge showed satisfactory penetration.

"By means of the incisive method", it is stated in the bulletin, satisfactory penetration can be secured in jack pine heartwood, even when not thoroughly air-dry in a considerably shorter time and with less preservative per cubic foot than when treated unincised. Air-dry eastern hemlock heartwood can be impregnated with creosote oil in a thoroughly satisfactory and economical manner by means of the incisive method."

Mounted Police in Alberta.

It has been officially announced that Lethbridge will be the headquarters of the Royal Northwest Mounted Police for the new southern Alberta division of the Mounted Police.

Buy War Savings Stamps.

REVIEW OF CONDITIONS IN LABOUR MARTS

[Continued from page 1.]

tonnage, which resulted in a reduction in the number of train crews. Falls of snow in the Maritime Provinces enabled logging operations to be proceeded with, and there was considerable employment in this work until the latter part of the month. In the metals, machinery, and conveyances group there was a reduction in employment in the steel industry in the Sydney district.

IN THE SHIPYARDS.

In the shipyards employment generally was fairly well maintained, and in the rest of the group conditions were slightly below normal. In the food group there was a decided improvement in the baking and confectionery trades. In the flour mills and in the abattoirs and packing houses employment varied considerably. The sugar refineries were actively engaged. The textile group was inclined to quietness, although there was a slight demand for experienced workers. In ready-made clothing and hosiery there was in general some activity accompanied by the slight demand for help, particularly in the shirt, collar and button factories. There was a considerable reduction in employment in the pulp mills at Three Rivers, but otherwise employment, in the pulp and paper industry was steady.

In wood-working employment was good in the Maritime Provinces and on the British Columbia coast, but in the western provinces it was decidedly dull. In the leather and rubber group there was activity throughout the country. Chemical plants and drug and medicine plants were actively engaged, and employment was good in the paint factories.

In the transportation group the steam railways were active in transporting returned soldiers, but, owing to the mild weather, fewer freight trains were required, with the result that a number of train crews were either reduced or let off. Employment was normal in the railway repair shops. Street railways generally had a good month. Longshore work was quiet.

IN THE MINING GROUP.

In the mining group, the Cobalt silver mines continued to work to capacity, and there was an increase in the working forces of the gold camps. In the coal-mining industry unemployment was reported from all areas, in some cases mines being either shut down or working less than half-time. In the lumber industry there was marked activity until the latter part of the month, except in the Fernie and Vancouver districts, where the unsettled conditions of last month continued to prevail. Halifax was the only city to report activity in the building trades. In a few cities, however, there was a little employment for carpenters, but otherwise there was no employment for building tradesmen. The value of building permits issued in thirty-five cities increased from \$1,096,974 in January to \$1,863,462 in February, or 69.9 per cent. As compared with February, 1918, there was an increase of 106.8 per cent.

Vancouver Island Coal.

The Vancouver Island coal mines have produced 158,327 tons of coal in January, 10,000 in excess of any month in the history of the province, says a report from the Commissioner of Immigration at Winnipeg.

Coast Lumber Shipped.

Reports from the office of the Commissioner of Immigration, Winnipeg, state that during the week 498 cars of lumber were shipped over the C.P.R. from various British Columbia mills, against last year 473 cars.

Put Victory Bond interest into War Savings Stamps.