

n Marble Works DON, Man. OS

AMERICAN WOOD-PULP INDUSTRY

A preliminary report of the consumption of pulp-wood and the amount of pulp manufactured last year has just been issued by the Bureau of the Census, Washington, D. C. The advance statement is made from the statistics collected by the Census Bureau in co-operation with the United States Forest Service.

3,962,660 CORDS OF PULP-WOOD USED IN 1907.

Nearly four million cords of wood, in exact numbers 3,962,660 cords, were used in the United States in the manufacture of paper pulp last year, just twice as much as was used in 1899, the first year for which detailed figures were available. More than two and one-half million tons of pulp were produced. The pulp mills used 300,000 more cords of wood in 1907 than in the previous year.

The amount of spruce used was 68 per cent. of the total consumption of pulp-wood, or 2,700,000 cords. The increased price of spruce has turned the attention of paper manufacturers to a number of other woods, hemlock ranking next, with 576,000 cords, or 14 per cent. of the total consumption. More than 9 per cent. was poplar, and the remainder consisted of relatively small amounts of pine, cottonwood, balsam and other woods.

CANADIAN SPRUCE FOR AMERICAN MILLS.

There was a marked increase last year in the importation of spruce, which has always been the most popular wood for pulp. For a number of years American pulp manufacturers have been heavily importing spruce from Canada, since the available supply of this wood in the north-central and New England States, where most of the pulp mills are located, is not equal to the demand. Figures show that the amount of this valuable pulp-wood imported into the United States was more than two and one-half times as great in 1907 as in 1899. In 1907 the importations were larger than ever before, being 25 per cent. greater than in 1906. The spruce imports last year amounted to more than one-third of the consumption of spruce pulp-wood.

Large quantities of hemlock were used by the Wisconsin pulp mills, and the report shows that the Beaver State now ranks third in pulp production. New York and Maine ranking first and second, respectively. Poplar has been used for a long time in the manufacture of high-grade paper, but the supply of this wood is limited and the consumption has not increased rapidly.

HOW PULP IS MADE.

Wood pulp is usually made by either one of two general processes, mechanical or chemical. In the mechanical process the wood, after being cut into suitable sizes and barked, is held against revolving grindstones in a stream of water and thus reduced to pulp. In the chemical process the barked wood is reduced to chips and cooked in large digesters with chemicals which destroy the cementing material of the fibres and leave practically pure cellulose. This is then washed and screened to render it suitable for paper-making. The chemicals ordinarily used are either bi-sulphite of lime or caustic soda. A little over half of the pulp manufactured last year was made by the sulphite process, and about one-third by the mechanical process, the remainder being produced by the soda process. Much of the mechanical pulp, or ground wood, as it is commonly called, is used in the making of newspaper. It is never used alone in making white paper, but always mixed with some sulphite fiber to give the paper strength. A cord of wood ordinarily yields about one ton of mechanical pulp, or about one-half ton of chemical pulp.

SUPERFETATION

The subject of superfetation, or as it is sometimes called, superfecundation, has been raised just recently by two correspondents in the F.A.A. (England), who have sent in queries on this question, and it is a very interesting one. It would be well to quote both letters, as the answers will then be better understood; the first relates to sheep and the

in the sheep, the second to superfetation in the hare. The first says:—

"Some time ago I was having a discussion with a large farmer upon sheep-breeding, and he assured me that a ewe would conceive to two different rams and produce twins, each of which would be got by a different sire. I did not believe this, and told him that the only way to prove it would be to run a Hampshire Down ram and a Dorset Horn ram with his flock of Lincolnshire Longwool ewes. I now hear from him that he has, among other, three pairs of twins from the Lincolnshire ewes, and of these three pairs one of each has a black face and the other has horns. Will you inform me whether this is generally accepted, as I have never heard of it before? If there is anything in it, it would prove that the more often ewes are served the more likely they would be to produce twins."

The text of the letter relating to superfetation in the hare is as follows:—

"Will you kindly inform me, through the medium of your columns, if it is true that a hare can, and does, carry two litters of young of different ages at the same time; if so, how is it possible, and are there any other known animals that present the same phenomenon?"

Now, to both these questions the answer, says our contemporary, is in the affirmative; but the reason for this occurrence is different in the two cases. Superfetation has been recorded in many instances as occurring amongst multiparous animals, and in Sir George Fleming's book on "Veterinary Obstetrics" he mentions the fact that "the domesticated rabbit affords the most striking example." This has also been noticed recently by Dr. A. S. Griffith, at Stansted, Essex, in the Belgian hare; the female Belgian hare has been observed in captivity to produce a second litter when her first litter was only about ten days old.

In the case of the hare this superfetation is more easily explained than in the case of the sheep, because the hare, like all of the same family, has a double uterus opening into a single vagina, so that it is quite probable, as in the case of the domesticated rabbit and Belgian hare, that the female may conceive in one uterus to one father, and after a few days may conceive again in the other uterus to another or even the same father; in such a case the two sets of young would be carried by the mother at the same time, but would be born at different dates. Such cases would naturally be rare, as females that have once conceived do not, as a rule, receive any attention from the males, nor do they allow the males to come near them.

With the sheep the gestation is quite different, and it is, therefore, necessary to explain the theory as to twins occurring in the one uterus of multiparous animals. If at the time of impregnation only one ovary has ovulated, and only one ovum is impregnated, by a process of cleavage in the ovum, twins may be the result. These are called homologous twins, and present the characters of the one parentage, and, as a rule, have one afterbirth. But sometimes both ovaries may ovulate, and then the twins would be called heterologous twins, and might be of both sexes, with separate afterbirth. In the former case impregnation would be from one father, but in the second case impregnation might be from two fathers, the first ovum being impregnated by one sire and the resulting twins bearing the characteristics of that sire; while the second ovum would be impregnated by the second sire, and would carry the characteristics of that sire, as in case of the sheep quoted by our correspondent.

In Sir George Fleming's book on "Veterinary Obstetrics" many instances are given of animals conceiving to two fathers. Some cases are given of mares which were served both by a stallion and an ass, and producing twins, one of which was a horse and the other a mule. He also mentioned cases of superfetation in the cow, the sheep, the sow, the bitch and other animals.

Similar cases to these latter have come to the notice of the editor of "The Farmer's Advocate."

YOU WILL BENEFIT YOURSELF AND HELP US BY DEALING WITH OUR ADVERTISERS. TELL THEM WHERE YOU READ THE AD.

THE PROVINCIAL MUTUAL HAIL INSURANCE COMPANY OF MANITOBA

IS THE ORIGINAL HAIL INSURANCE COMPANY OF MANITOBA

Established 1891, by Provincial Government Charter

The Old Reliable: Managed by Farmers Only

Has done business for seventeen years, and in thirteen of those years has paid all losses in full. The other four years it paid Three Dollars per acre twice, Four Dollars and fifty cents per acre once, and Five Dollars per acre once. No other Mutual Hail Insurance Company doing business by the premium note method, and paying for losses to the extent of six dollars per acre has ever been able to show such a splendid record. The yearly average cost has been 22 cents per acre to insure to the extent of six dollars per acre. No Liabilities.

C. J. Thompson, Farmer, Virden, Mgr. Sec.-Treas.

Head Office: 291 1/2 Portage Ave., Winnipeg.

IF IT'S A CHOICE BETWEEN TWO FIRMS GIVE THE PREFERENCE TO THE ONE WHOSE ADVERTISEMENT IS FOUND IN YOUR FARM PAPER.

The Maple Leaf Gold Sheaf Harvest Tools



These tools are tempered by the same process used in the tempering of the famous Maple Leaf Saws. They are the best goods of the kind ever offered to the Canadian public. Every tool is warranted. Handles made of best second-growth white ash. It pays to use the best. If your merchant has not got them, send to the

Maple Leaf Harvest Tool Co., Ltd., Tilsonburg, Ont. who are the manufacturers. None genuine that do not have the Gold Sheaf on the label.

J. C. DIETRICH, President. C. J. SHURLY, Vice-President.

F. D. PALMER, Treasurer. C. K. JANSEN, Secretary

Wedding Invitations Wedding Announcements Visiting Cards

Latest Styles

Latest Type

PROMPT ATTENTION TO MAIL ORDERS

Farmer's Advocate of Winnipeg 14-16 Princess St., Winnipeg

WE OFFER HARDY TREES



Grown for Manitoba, Saskatchewan and Alberta planting in varieties tested and recommended by Experimental Stations at BRANDON and INDIAN HEAD

SALESMEN WANTED

TO START NOW OR FALL SALES Liberal Commissions Pay Weekly

THE FONTHILL NURSERIES

OLDEST and LARGEST in CANADA Established 1837 Over 800 acre

Stone and Wellington, - Toronto, Ont.

NOTES

reach Brandon carrying a large lot from, we have order for more

Granite can be ordered the order

Vermont and

NDON

mbia

LANDS

Free

best fruit lands for sale in the subdivided into sections along the boundary. Soil is the most magnificent. Very miles away in the boundary. 1,000. Splendid of Okanagan s. Prices only supply of the it. Apply to

Manager.

ruit Lands Co Y, B. C.

ding Winnipeg, Man.

.TY Co.

. Box 626

roperty

crease in the climate; the 1. Fruit and 2. for particu-



ore used. ive, clean, stall. No ing. Re- washed

Ont., 200, 1 given is good

CANADA ckest

esults