

The manufacture of pulp is the second stage in this industry. This is carried on by mills producing pulp alone and also by paper manufacturers operating pulp-mills in conjunction with paper-mills to provide their own raw material. Such mills usually manufacture a surplus of pulp for sale in Canada or for export.

The supply of rags for paper-making is distinctly limited and the material too expensive for the manufacture of cheap paper. Different species of wood were tried, and finally spruce supplemented by balsam fir was found to be the most suitable for the production of all but the best classes of paper.

The preliminary preparation of pulpwood is frequently carried on at the pulp-mill, but there are in Canada a number of 'cutting-up' and 'rossing' mills operating on an independent basis, chiefly for the purpose of saving freight on material cut at a distance from the mill or on material intended for exportation. Pulpwood is measured by the cord (4' by 4' by 8' of piled material), which is approximately equivalent to 500 feet board measure or to 90 cubic feet of solid wood.

There are, in Canada, four methods of preparing wood-pulp, one of which is mechanical and three chemical. Detailed descriptions of these processes are given in the 1931 Year Book, pp. 290-291.

**Pulp Production.**—Growth was steady up to 1920, when 1,960,102 tons of pulp were produced. With the exception of 1921 and 1924, each year up to 1929 showed consistent growth in the annual production, 1929 creating a record for the industry with a production of 4,021,229 tons. This was followed by annual decreases down to 1932 since when steady increases were recorded, resulting in 1937, in a new record of 5,141,504 tons.

#### 7.—Pulp Production, Mechanical and Chemical, 1930-39

NOTE.—Figures for earlier years will be found in the corresponding table of previous Year Books.

Year	Mechanical Pulp <sup>1</sup>		Chemical Fibre <sup>1</sup>		Total Production <sup>2</sup>	
	Quantity	Value	Quantity	Value	Quantity	Value
	tons	\$	tons	\$	tons	\$
1930.....	2,283,130	48,317,494	1,265,057	63,156,351	3,619,345	112,355,872
1931.....	2,016,480	37,096,768	1,151,480	46,998,938	3,167,960	84,780,809
1932.....	1,696,021	28,018,451	967,227	35,987,294	2,663,248	64,412,453
1933.....	1,859,049	25,332,444	1,120,513	38,781,630	2,979,562	64,114,074
1934.....	2,394,765	30,875,323	1,241,570	44,851,635	3,636,335	75,726,958
1935.....	2,563,711	32,323,820	1,283,743	46,444,144	3,868,341	79,722,039
1936.....	2,984,282	38,674,492	1,480,925	52,701,156	4,485,445	92,336,953
1937.....	3,384,744	46,663,759	1,756,760	70,065,469	5,141,504	116,729,228
1938.....	2,520,738	39,707,479	1,147,051	48,189,669	3,667,789	87,897,148
1939.....	2,796,093	43,530,366	1,370,208	43,601,451	4,166,301	97,131,817

<sup>1</sup> Includes screenings.

<sup>2</sup> Some of these totals include unspecified pulp.

During 1939 there were 27 mills manufacturing pulp only and 49 combined pulp and paper mills. These 76 establishments turned out 4,166,301 tons of pulp, valued at \$97,131,817, as compared with 3,667,789 tons of pulp, valued at \$87,897,148 in 1938. Of the 1939 total for pulp, 3,277,651 tons, valued at \$60,390,253, were made in the combined pulp and paper mills for their own use in manufacturing paper. Of the remainder, 170,264 tons, valued at \$6,565,356, were made for sale in Canada, while 718,386 tons, valued at \$30,176,208 were made for export. As in the case of pulpwood, a part of the product at this stage of the industry provides raw material for the later stages, while the remainder has a definite market value as pulp.