

ble. It is clear that the income depends on the amount of timber cut and the prices obtained. If, therefore, the yearly cut has been increased, in some cases doubled, by good management since the beginning of this century, the income naturally is doubled. To this increase in the amount of salable material there has been added a general advance in prices, partly due to the depreciation of money in general, but vastly increased by the improvements in transportation, for which large sums have been expended, especially during the last fifty years.

The financial results of the various government forest administrations vary considerably, as is natural, since market conditions vary much. It is believed that all these administrations are less profitable than they might be, being managed with great conservatism, and less for the greatest financial result than for desirable economic results.

The following table exhibits in a brief manner the results of this kind of management, the figures relating to conditions in 1890 or thereabout. The record for the city of Zurich is added to show how an intensively managed small forest property under favorable conditions,

YEARLY INCOME AND EXPENSES PER ACRE OF FORESTED AREA.

State Forests.	Cut of wood per acre, cubic feet.	—Expenses.—			
		Gross Income.	Total	As a per cent of gross income.	Net revenue
*Germany.....	62	\$3.47	\$1.66	48	\$1.81
Prussia.....	54	2.10	1.38	52	1.28
Bavaria.....	72	3.71	1.78	48	1.91
Württemberg.....	61	3.30	1.74	40.5	3.85
Saxony.....	90	6.00	2.36	39	4.54
Haden.....	73	5.82	2.10	46.2	3.13
Alsace-Lorraine.....	37	4.24	2.09	49.4	2.12
Hesse.....	75	4.95	2.37	48	2.58
Mecklenburg-Schwern.....	61	2.52	1.47	58	1.05

*This figure represents the average for 90 per cent of all state forests, and would be little changed if data for the other 10 per cent were available.

From these figures it appears that the several governments expend on an average about \$1.66 per acre per year on their forest property, and that they obtain thereby a gross income of \$3.47 per acre and a net revenue of \$1.81, or 52 per cent. of the gross income per acre per year. Considering the \$1.81 as the interest on the values of the forest lands, and using the 3 per cent. interest rate as customary for large investments, these figures show that by proper management the German states keep their poorest lands at a capital value of over \$60 per acre; in

the case of all state forests, whether of large or small territories, the enterprise was successful; that it proved of great advantage to the country, furnished a handsome revenue where otherwise no return could be expected, led to the establishment of permanent woodworking industries, and thus gave opportunity for labor and capital to be active, not spasmodically, not speculative, but continuous and with assurance of success. This rule has, fortunately, not a single exception. To be sure, isolated tracts away from railroad or water, sand dunes, and and rocky promontories exist in every state, and the management of these poor forest areas costs all the tract can bring and often more; but the wood is needed, the dune or waste is a nuisance, and the state has found it profitable to convert it into forest, even though the direct revenue falls short of the expense.

PROPORTION OF EXPENSES TO INCOME.

State forest of	Total expenses per cent.	Administration and protection (mostly salaries) per cent.	Cutting and moving the timber, etc. per cent.	Planting, sowing, drainage, roads, etc. per cent.
Prussia.....	52	21	14.8	7.5
Bavaria.....	48	24	20	6.0
Württemberg.....	40.5	12	14.6	8.6
Saxony.....	39	12	14.5	6.4
Haden.....	46.2	9.4	17.7	10.4
Alsace-Lorraine.....	49.4	17	15.2	8.4
Hesse.....	48	19	21	9.7
Mecklenburg-Schwern.....	58	17	17.5	9.2

FORESTRY STATISTICS OF CERTAIN GERMAN FOREST ADMINISTRATIONS, SHOWING AVERAGE COST OF ADMINISTRATION, GROSS AND NET INCOME PER ACRE, 1890.

States.	Forest Area.	Total Expendi- ture.	Revenue.		Expenditures and Revenues per Acre of Forest.						
			Gross.	Net.	Expenditures.						Net Revenue.
					Total.	Per cent. of Gross Income.	Administration and Protection.	Marketing crop.	Cultivation.	Roads.	
	Acres.										
Prussia.	6,000,000	\$8,000,000	\$14,000,000	\$6,000,000	\$1.33	58	\$0.48	\$0.30	\$0.14	\$0.06	\$0.96
Bavaria	2,300,000	3,150,000	5,880,000	2,730,000	1.37	51	.64	.37	.11	.11	1.19
Württemberg	470,000	1,025,000	2,260,000	1,235,000	2.17	45	.87	.92	.22	.33	2.63
Saxony	416,000	1,010,000	2,750,000	1,710,000	2.50	37	.65	.81	.11	.21	4.11
Haden	235,000	404,000	1,000,000	686,000	1.54	40	.32	.83	.15	.12	2.90
City of Zurich	2,760	14,000	26,000	12,000	5.00	54	1.14	2.10	.16	1.14	4.40

market compares with the more extensively managed larger forest areas:

The latest figures (1897) show a considerable increase in all directions, expenditures, gross and net income, over those prevailing ten years ago, and, as we will see further on in the discussion of the conditions in the single states, these increases have been steady for a long period.

The following figures represent the income and expense for state forests of the entire empire and for the principal states as at present:

FINANCIAL RESULTS, 1897.

State forests.	Gross Income.	Total expenses.	Net revenue.
Germany.....	\$39,361,000	\$18,833,000	\$20,528,000
Prussia.....	17,445,000	9,079,000	8,366,000
Bavaria.....	8,100,000	3,881,000	4,219,000
Württemberg.....	3,019,000	1,224,000	1,795,000
Saxony.....	2,865,000	1,032,000	1,833,000
Haden.....	1,337,000	618,000	719,000
Alsace-Lorraine.....	1,522,000	752,000	770,000
Hesse.....	840,000	405,000	435,000
Mecklenburg-Schwern.....	609,000	356,000	253,000

*This item is a trifle below the truth, as the small principalities are here assumed to have no larger income than the average of the larger states.

From this statement it appears that Germany has a yearly gross income of nearly \$40,000,000 from its state forests, i.e., from one-third of its total forest area alone, while the value of its forest products from the entire forest area (35,000,000 acres) may be estimated to sum up the handsome total of over \$107,000,000, or round gross income for every acre under forest cover.

The following table illustrates the results of forest management in the several states. For comparison the figures represent the yearly income and outlay per acre of total forest area, so that for instance, the gross income of \$3.47 per acre for Germany means that the German state forests yield each year about that sum for every acre of state forest, or \$39,300,000 on the whole:

other words, that the German state forests pay \$19,000,000 for labor and taxes, and in addition pay interest at 3 per cent. on a capital of \$60 per acre. A large part of this land if deforested would not support a farmer and would rapidly degenerate into mountain pasture and heath, which at best could not be sold at over \$5 per acre, and even then would prove more a detriment than advantage to the community. It also appears from the above figures that the revenue is largely in proportion to the expenses, that the forest which is best cared for also pays the best. The same conclusion is reached by a study of the past. In 1850, when the total expenses per acre in the Prussian forests were only 37 cents, the net income was only 46 cents; to-day it is \$1.38 and the net income \$1.28, and the same holds for other states. Thus Saxony expended 80 cents an acre per year in the beginning of this century and received 95 cents net income; to-day she spends \$2.36 and receives \$4.54, or nearly fivefold. That these advantages are not merely the expression of higher prices for wood is clear from the fact that the average price of wood for the Prussian cut (300,000,000 cubic feet) has advanced since 1850 from \$3.27 per 100 cubic feet to only \$4.40, or 37 per cent., while the net income rose from 46 cents to \$1.28, or 176 per cent.

Since so much has been argued as to the impossibilities and impracticability of employing these better forestry methods elsewhere, and especially since the idea of sowing or planting forests has at all times been ridiculed in the United States, it may be of interest to note just how Germany spends her money in the woods.

The figures of the table at the end of this article present the various large items as per cent. of the gross income. Thus the total expenses in the Prussian forest use up 50 per cent. of the gross income, the logging alone 14.8 per cent., etc.

The figures that conclude this article are doubly interesting, since they show that in Saxony, the very state where the timber is usually cut clean and the land restocked entirely by planting it with nursery stock, the item of planting, etc., uses up the smallest per cent. of the total income—6.4 per cent.

From this brief outline it will be apparent that forestry in its modern sense is not a new, untried experiment in Germany; that the accurate official records of several states for the last 100 years prove conclusively that wherever a systematic, continuous effort has been made, as in

PERSONAL.

Mr. Angus McLean, of the lumber firm of Hugh McLean & Co., Buffalo, left a fortnight ago on a trip to Europe.

The sympathy of many friends is extended to Mr. John Bradley, of the Bradley Lumber Co., Hamilton, who was recently bereaved of an only daughter.

Mr. John A. Bertram, lumber inspector, has recently removed from Toronto to Little Current, Ont., and will be pleased to show the lumber in that district to prospective buyers.

Miss Edith Julia White, daughter of Mr. Aubrey White, Assistant Commissioner of Crown Lands of Ontario, was recently married at Holy Trinity church, Toronto, to Mr. Frank Baillie.

Mr. David Ward a pioneer Michigan lumber, who was reckoned to have accumulated riches to the amount of \$25,000,000 died last month at his home in Pontiac. Mr. Ward owned some limits in Ontario.

Mr. M. M. Wall, of the Buffalo Hardwood Lumber Company, has been appointed surveyor-general for the National Hardwood Association of the United States, and has taken up the duties pertaining to that office.

Mr. J. W. Munro, the well known lumberman of Pembroke, Ont., has been elected by acclamation to represent the riding of North Renfrew in the Ontario Legislature. The seat was made vacant by the death of Mr. A. J. White. Mr. Munro is a liberal.

The news of the recent death by drowning of Mr. James King, of the well-known lumber firm of King Bros., Quebec, has caused a feeling of widespread regret throughout the trade. A more extended reference to the life of the deceased will appear in our August issue.

Mr. John Grant, who for a number of years had been general superintendent of Mr. C. P. Holton's lumber business at Belleville, Ont., died recently of heart failure. Deceased was 52 years of age, and had been for the greater portion of his life identified with lumbering operations.

Mr. J. A. Duff, of the School of Practical Science, Toronto, has been commissioned by the Ontario Government to proceed to Algonquin Park to study the location of timber there. This will be followed by scientific tests as to the strength and durability of the pine and other woods for building purposes.

Mr. R. H. Campbell, assistant secretary of the Canadian Forestry Association, was a welcome visitor recently at the office of the CANADA LUMBERMAN. Mr. Campbell was in Toronto on business in connection with the association, and had a conference with Mr. Thomas Southworth, chief of the Ontario Forestry Department.

Mr. Aubrey White, assistant commissioner of crown lands, Toronto, has lately recovered from illness, and left on June the 14th for a trip to England. Upon the eve of his departure he was presented with a very handsome gold watch by the staff of the Crown Lands Department. The presentation was made by the Commissioner, Hon. E. J. Davis, and was suitably acknowledged by Mr. White.

Mr. E. Stewart, chief inspector of timber and forestry for Canada, left early in June for Western Canada. He will visit Winnipeg, Calgary, New Westminster, B.C., and other points in connection with the question of protecting the timber and providing for the perpetuation of the supply. Mr. Stewart expects to arrange for a system of ranging, which will guard as far as possible against the danger of fire.

The death of Mr. G. White, of Albany, N.Y., will be learned with deep regret by his numerous friends in Canada as well as the United States. He was identified with the well known lumber firm of Douglas L. White & Company, of Albany. For several years he represented this firm in Canada, and later became their New York representative. He was recognized as one of the leading salesmen of the wholesale lumber trade, and as an expert in all branches of the business. Mr. Douglas L. White, jr., of Midland, Ont., is a brother of the deceased.