

EDITORIAL.

The Dominion Experimental Farm Staff.

We feel sure that our readers, from one end of Canada to the other, will appreciate the distinguished group occupying the pictorial position of honor in this issue of the FARMER'S ADVOCATE. Our artist has succeeded in portraying, with his usual skill, in group form, the Director and staff of the Central Experimental Farm, at Ottawa, and the superintendents of the four branch farms, thus bringing into view the personality of those who guide the various operations of these important institutions, with the work of which the agriculturists of Canada have become so familiar. It affords us pleasure in this way to extend their acquaintance, and to this end also we append the following brief biographic sketches:—

THE DIRECTOR.

Prof. Wm. Saunders, who has been the Director of Experimental Farms of the Dominion of Canada for nearly nine years, is a native of Devonshire, England, from where he migrated in 1848. He settled in London, Ont., where an earnest and practical study of science was commenced, which has continued until the present day. From 1855-66 he conducted a manufacturing chemical business, paying special attention to the scientific aspects of his work. He was an important factor in organizing the Ontario College of Pharmacy, of which he became a member of the council, was one of the examiners, and for two years held the presidency. In 1882 he was appointed public analyst for the western division of the Province of Ontario, where he did good work for four years. In 1882, when the Medical Faculty of the Western University, of London, Ont., was organized, Mr. Saunders was appointed to the chair of the Materia Medica, from which he retired in 1886, to accept his present position at Ottawa.

The Professor's recreative hours were spent in studying Canadian Botany and Entomology, in which sciences he soon became distinguished. In 1863 he published in the Canadian Journal, Toronto, a "flora" of the London district, which is noted for its richness. The Entomological Society of Ontario, which was organized in 1863, was substantially aided by him. He became and continued to be editor of the Canadian Entomologist for thirteen years. He was elected president of that society in 1883, which position he held until 1886.

In 1869 he was made a director of the Ontario Fruit Growers' Association, and from 1882 till 1886 that association claimed him as their president. For ten or eleven years, beginning with 1868, he carried on farming near London, where he had planted some sixty acres of trees and vines, which afforded the opportunity of ascertaining which varieties were most suited to that section, while he made use of this grand opportunity of observing and studying the insect pests which affect the different sorts of fruit. His popular work, entitled "Insects Injurious to Fruit," was largely an outgrowth of the study of those years. He is also a successful hybridist, and has originated many promising varieties of fruit and grains. He did valuable work in preparing exhibits of Canadian fruits, etc., for several of the world's great exhibitions.

In 1881 he was appointed one of the twenty Fellows who formed the biological section of the Royal Society of Canada, of which he finally was elected president. He was also a Fellow of the American Association for the Advancement of Science, also an active member of the American Forestry Association ever since its organization. In 1880 he was one of thirteen commissioners to inquire into the condition of agriculture of Ontario Province, and under his direction the information on fruit growing, forestry, insectivorous birds, insects, and bee-keeping, was collected and published.

In 1885 the Hon. Minister of Agriculture, John Carling, requested Mr. Saunders to visit the Experimental Stations of the United States, and to make inquiries regarding agricultural experimental work in Europe and America. Following this an Act was introduced by the Minister of Agriculture, which provided for the five Experimental Farms, which we now have at Ottawa, the Maritime Provinces, Manitoba, the Northwest, and British Columbia, of which work he became director in Oct., 1886. Since that time these institutions have gone on apace, affording much appreciated help to farmers throughout the whole Dominion. Reports and bulletins relating to agriculture and horticulture have been sent out giving advanced methods as they are being learned through experimental work.

He has lately been honored with the presidency of the Society for the Promotion of Agricultural Science, which is a select association of expert agriculturists. To this we may add that Prof. Saunders is Fellow of the Royal Microscopical Society of London, Eng.; Fellow of the Entomological Society of London, Eng.; corresponding member of the American Entomological Society, Philadelphia; of Buffalo Society of Natural Sciences; the Natural History Society of Montreal.

DAIRY COMMISSIONER AND AGRICULTURIST.

Jas. W. Robertson was born at Dunlop, Ayrshire, Scotland, in 1857. He came to Canada in 1875, and shortly thereafter engaged in the business of manufacturing cheese. Beginning as an apprentice in 1876, at \$13 per month, in 1885 he had control of eight cheese factories in the Listowel district, of Ontario. In 1886 he was appointed Professor of Dairying at the Ontario Agricultural College, Guelph, Ont. In 1888 he succeeded Prof. L. B. Arnold as Lecturer in Dairying at Cornell University, New York, continuing to hold the position at Guelph at the same time. In 1890 he accepted the position of Dairy Commissioner for the Dominion of Canada and Agriculturist to the Central Experimental Farm.

Among the more noteworthy results of labor in which Prof. Robertson has been so actively associated with others are: The general introduction of the system of making ensilage, into Ontario and the other provinces; the far-reaching benefits to the reputation of Ontario cheese and creamery butter from the management of the dairy exhibits at the Colonial and Indian Exhibition; extending the work of the travelling instructors in dairying, under the Dairymen's Associations; the popularizing of meetings of the Farmers' Institutes; the raising of the standard of the quality of Canadian cheese in various provinces; the development of Travelling Dairies and their extension into different provinces; the establishment of branch experimental dairy stations, whereby winter buttermaking in creameries has been introduced in Ontario, Quebec, New Brunswick, Nova Scotia, and Prince Edward Island; the extension of co-operative dairying in cheesemaking and buttermaking in all the provinces; the reputation won by the unequalled success of the exhibits of Canadian cheese and butter at the World's Fair; and the organization of a cold storage service on railways, at warehouse in Montreal, and on board ocean steamships, for the safe carriage of creamery butter in a fresh-made condition to Great Britain. From the experimental work conducted by Prof. Robertson, in his capacity as Agriculturist at the Central Experimental Farm, much information of a very serviceable character has been derived in the domain of economical feeding for the production of meat and milk; the "Robertson mixture for ensilage" being a noteworthy effort in that direction. The high feeding value of wheat, even where damaged by frost, was demonstrated by experiments which rendered particular service. And the experimental work in the separation of cream and the making of butter and cheese has furnished data of inestimable value for the guidance of those engaged in that branch of farm work.

Prof. Robertson early recognized the superiority of the press as a means of quickly and effectively reaching the people for educational purposes. His writings have been clear and forcible, and many of his addresses earned him deservedly high rank as a public speaker. His aim has ever been to rouse people to intelligent activity on their own behalf.

It is expected that the large commercial undertakings of the dairying branch of the service, which were gone into for the purpose of introducing and establishing co-operative dairying into provinces and districts where the people would not have been in the way of adopting them, if left unaided, will be finished by next year. It is learned that after that time Prof. Robertson intends to withdraw from the service of the Government and to spend several years abroad in study and research for better equipment for further work for the people.

ENTOMOLOGIST AND BOTANIST.

James Fletcher, F.R.S.C., F.L.S., was born in 1852 at Ashe, near Wrotham, in the County of Kent, England; educated at the King's School, Rochester, England; came to Canada, 1874, in the service of the Bank of British North America. He was appointed on the 1st of July, 1876, Registry Clerk to the Dominion Library of Parliament, Ottawa, and afterwards Accountant to the same department; acted as Honorary Dominion Entomologist to the Department of Agriculture from 1881 until transferred 1st of July, 1887, to his present position of Dominion Entomologist and of Botanist to the Dominion Experimental Farms; he was elected Fellow of the Royal Society of Canada in 1885, and Fellow of the Linnean Society of London, England, when attending the Colonial and Indian Exhibition in 1886, where he went at the request of Sir Charles Tupper, the Executive Commissioner, in order to lay out a Canadian garden, showing the useful and ornamental plants of the Dominion; has been president of the Entomological Society of Ontario three times, of the Ottawa Field Naturalists' Club four times, of the Association of Economic Entomologists once, and of the Entomological Club of the American Association for the Advancement of Science once; is an active member of the Royal Society of Canada, having filled the offices of honorary secretary in 1892, of treasurer in 1894 and 1895, and having been president of Section IV., Geological and Biological Sciences, 1894.

Prof. Fletcher's seasonable contributions to the press, as readers of the FARMER'S ADVOCATE and other periodicals well know, have been very extensive and at all times highly appreciated. He has labored indefatigably and most unselfishly in furnishing the very latest information at his command that would enable agriculturists, horticulturists and others to overcome insect and weed

pests in order to the prosecution of these industries with greater success. Genial in all his relations with the public, he is moreover a most painstaking scientific investigator.

THE HORTICULTURIST.

John Craig, the subject of this sketch, is a native of the Province of Quebec, and was born in 1864, at Lakefield, Argenteuil County. When he was eight years old his father moved to Abbotsford, to take charge of that well-known experimental farm belonging to the late Charles Gibb, where so many hardy Russian and other apples were under test; a property which has since come into the possession of Mr. Craig's people. It was on this farm at Abbotsford, and associated with so learned a horticulturist as Mr. Gibb, that Mr. Craig received his first impressions in horticulture. After completing his public school course at Abbotsford, he was sent to the high school at Montreal. This course completed, he returned to Abbotsford and spent two years as the private secretary and assistant of Mr. Charles Gibb. It was at the suggestion of the latter that he entered the Iowa Agricultural College, as a special student of horticulture and economic botany; he thus came into contact with Prof. J. L. Budd, whose visit to Russia in company with Mr. Gibb, to gather hardy fruits for testing in North America, has been frequently referred to in our reports. Mr. Craig remained at this college for three years, completing his course of study there, and receiving a diploma in the class of 1887. During his college work, he employed his summer and winter holidays in practical nursery and greenhouse work, and his last year, as assistant of Prof. Budd, in the important branches of hybridizing, propagating and testing varieties.

On the organization of the Iowa Experiment Station, he was elected assistant director, and was given the special charge of the Department of Horticulture. During his stay at this Station, he was sent out by the Board of Control on a botanical expedition, with the especial object of making as complete a collection as possible of the wild and cultivated grasses. In the pursuit of this work he made an extended tour through Dakota, Montana, Washington, Oregon, Utah and Colorado.

In January, 1890, he was appointed Horticulturist of the Central Experimental Farm, a position which he still fills in a most creditable manner. Of his work since that time, it is scarcely necessary to speak, as our readers are kept well posted concerning it, by means of his reports, addresses at meetings, published articles, etc.

Some of the more important lines of work which he is pursuing at Ottawa are indicated under the following heads: (a) testing fruits for the north, (b) crossing and developing new varieties, (c) systematic study of the methods of propagation, (d) fungous diseases and the best way to destroy them.

Mr. Craig is a member of the principal horticultural and pomological societies of the United States and Canada, of the American Forestry Association, and of the American Association for the Advancement of Science, as well as vice-president of the American Promological Society, and vice-president for Canada of the World's Horticultural Society. Thus, by frequent contact with the leading students of horticulture and allied studies in America, he is enabled to keep the fruit-growers of the Dominion posted as to the very latest discoveries which promise to help them to greater success.

THE CHEMIST.

Mr. Frank Thomas Shutt, M. A. (Toronto), Chief Chemist of the Dominion Experimental Farms, is an Englishman by parentage and birth. Coming early in his youth to Toronto, he entered the laboratory of Dr. W. H. Ellis, Professor of Applied Chemistry, Toronto University, and Public Analyst. He continued with Dr. Ellis, as pupil and assistant, for six years, when he entered the Honor Science course of Toronto University, studying more particularly under Dr. Pike and Professors Ramsay, Wright, and Chapman. Mr. Shutt, after winning the McMurrich and silver medals in Biology and Chemistry, graduated with first-class honors in Chemistry, Mineralogy, Geology, and Biology, in 1885, receiving the appointment of Fellow in Chemistry at his Alma Mater. This honorable post he continued to hold for two years, when he was appointed to his present position in Ottawa. During the eight years that have since elapsed Mr. Shutt has carried on many important investigations in Agricultural Chemistry, and notably in the examination of the virgin soils, the cereals and native fodder crops and waters of Canada. The naturally-occurring fertilizers of the Dominion, such as swamp muck, marsh mud, peat, and marl, have also received special attention. The annual reports of the Department show that special help has been rendered to the dairying and fruit industries of Canada, from time to time.

In 1893, upon the nomination of Sir Henry Freeman Wood (Secretary to the Royal Commission of Great Britain), Mr. Shutt was appointed a professional juror on cereals at the World's Columbian Exposition. While in Chicago he was engaged in the analyses of the cereals competing for awards. He had the honor of being the only foreign chemist appointed on the board of jurors.

Mr. Shutt is a Fellow of the Institute of Chemistry of Great Britain, and is also a Fellow of the Chemical Societies of England and the United States.