(1937.)

WILLIAM JAMES FARRER.

1845 - 1906.

Ninety-two years ago, on April 3rd., 1845, in the Northern English county of Westmoreland, there was born a boy whose life work was to begin and end in Australia. This work was to prove of inestimable economic importance to this country, and even of great value to other countries where the cultivation of wheat is of prime importance. That boy was William James Farrer, the leader of the Australian pioneer wheat breeders of whom his contemporaries were Pye and Marshall.

After a sound school education at the famous London "Blue Coat" School, Christ's Hospital, where he distinguished himself at mathematics, he proceeded to Cambridge, where, at the age of 23, he graduated with senior mathematical honours as a Wrangler. It was intended he should study for the bar or for the Church, but he forsook these in favour of Medicine. After completing his first year, the blow fell, and Farrer learnt that he had lung trouble, or, in plainer language, T.B. A sheep farming, or squatting life in the warm dry climate of New South Wales was indicated, and so in 1870 the young man left for that State. Great Britain lost a useful and probably a brilliant Doctor, but Australia gained a great Wheat Breeder.

As the result of financial losses in mining ventures, whilst gaining colonial experience to fit him for pastoral pursuits, he decided to become a surveyor, for which his training at Cambridge stood him in good stead, as it was later, to form a sound background for his work as a wheat breeder.

During his work in the Cooma district he became acquainted with "Nina", the daughter of the Hon. Leopold De Salis, of Cuppa-

cumbalong Station, whom he married in September, 1882, and it was in this year that he first conceived the idea of his life work. The union, though childless, was of the happiest; his wife was a true mate, who helped and stimulated him in his work, and whose loyal support must have been a great solace when his aims were misunderstood, and when at times his methods aroused fierce opposition from some of his colleagues. She was a typical Australian gentlewoman, beloved of the whole district, who ably assisted him to dispense that open-house hospitality for which their country home was so well known.

Four years after his marriage he resigned his position as a surveyor and settled down on a small area of Government land which he previously selected from the "Cuppacumbalong" run. "Lambrigg" was the name given to his selection. Here it was that he began his work as a wheat breeder. After working for twelve years in a private capacity his services were engaged in September, 1898, by the Department of Agriculture as Wheat Experimentalist, and he continued an active Officer of the Department until the day of his death.

At the time Farrer commenced his wheat breeding work the wheat crops of New South Wales were periodically devastated with Red Rust, with resultant crop failure. It is not surprising, therefore, that to a man of Farrer's vision his original object was to produce a rust resisting or rust escaping variety of wheat so that the farmer in arusty season might not experience the usual total failure. Later his aims were enlarged to include the improvement of the baking quality of Australian wheats, and still later to combine resistance to ball smut, or bunt, with other desirable field qualities, which made them specially adapted to dry areas.

The work at first was largely of an exploratory character, and it was not until 1889 that cross-breeding was attempted. Owing, at this time, to the need of suitable instruments and the absence of a system, the work was carried out with great difficulty and made slow progress. In these early days he had to devise his

own instruments; his earliest pollinating forceps were made from a hairpin.

It is interesting to point out that it was not until 1900, or 14 years after Farrer commenced his work, that the laws of Mendel were rediscovered by Correns, De Vries and Von Tschetmak, but it is a remarkable tribute to his genius that the methods initiated by him were such as would have been very largely based upon these laws had he known them.

Because of his exploratory work the number of crosses made by Farrer was necessarily legion and a detailed account of them cannot be given here. Two, however, "Federation and "Comeback" call for special attention.

"Federation" was undoubtedly the most popular Farrer variety. It reached that position because of its remarkable ability to yield well and consistently throughout the wheat reas of New South Wales, Victoria and South Australia. In most districts it yielded at least a bag more per acre than any of the old varieties, and this despite its appearance which was much less attractive than some of the old varieties. "Federation" set a new and higher standard for yield in Australia.

The production of this variety was the result of a deliberate attempt on the part of Farrer to produce a variety with short straw, specially suitable for the Australian methods of harvesting with the stripper. The remarkable popularity of this variety, because of the way it met these requirements, affords abundant evidence that he was extremely successful.

"Federation" has been regarded by some as Farrer's greatest success. Knowing how keen Farrer was to produce varieties of great nutritive and milling value, the variety "Comeback" must, from his standpoint, be regarded as his greatest triumph. For baking quality this variety is a peer amongst the World's best, and at the present time, 31 years after his death, it is still the standard of baking excellence in Australia.

In his endeavours to improve the baking quality of Australian wheats Farrer had a worthy collaborator in Frederick Bickell Guthrie, the Chemist of the New South Wales Department of Agriculture. No one would be more willing than Farrer to acknowledge his indebtedness to Guthrie and to point out that he blazed the trail for cereal research in Australia.

Some forty Farrer varieties were at various times in general cultivation and today, with a few exceptions, the standard varieties in general cultivation are either Farrer productions, or varieties produced by his successors in accordance with the principles initiated by him.

Farrer's greatest achievement, however, is not that he produced varieties better adapted to Australian conditions, but that he initiated the art and science of cereal breeding and inspired his successors to develop the work he left.

So much for the work, and now what of the man? In person William James Farrer was above middle height, somewhat stooping and spare of frame, more the lean Australian type than what one associates usually with those born in Great Britain. His spectacled kindly grey-blue eyes looked out from a bearded face with the quick glance of a shy, reserved man. But while naturally retiring, and almost diffident in ordinary contact, it needed only a word upon any subject of interest, and his shyness dropped like a cloak.

Carlyle has said "Genius ~~is~~ has an immense capacity for taking trouble". If this be true, Farrer was a genius of the very highest order, as those who were most familiar with his methods will readily admit. The care and attention which he paid to minute details when he was working out his sytem were extraordinary. He was, however, a genius in a much bigger and wider sense; he was endowed with an uncommonly vigorous mind of exceptional intellectual power and originality. Further, he had great force of character and indomitable energy, and these were needed to continue such work as Farrer commenced. Fortunately, for Australia, Farrer possessed

these necessary qualifications, combined with sufficient independence of thought to look at the subject in its broad aspect, and arrive at his own conclusions, though such were certainly at variance with public opinion at the time.

In consequence of his close and necessary regard for detail he was by some considered a faddist, and because of this he was subjected to passive and even active resistance from one or two of his colleagues. One of these even went so far as to say that he would like to put a fire-stick in Farrer's wheat plots.

No man was less entitled to be called a faddist than he. Whilst impatient of unsupported assertion, and especially so of mere aggressive assertion, no man was more ready to listen to the views of others and, if necessary, to alter his opinions and methods accordingly. This was especially so in the face of facts. Facts were greedily sought after, and opinions invited, but the respective values of the two were never confused. Facts, though sometimes upsetting preconceived ideas, were always welcomed as aids to remove barriers from the path of progress. Opinions were always considered, and though very often at variance with his own, they were given that amount of consideration to which they were entitled, because of the reputation and position of those presenting them.

Farrer's ideals were high - perfection was his goal - but he recognised it as being quite unattainable, for each success gave him something higher to aspire to, and rendered perfection still more beyond his reach.

Farrer's success is a veritable triumph for scientific research and patient and careful work. He loved and lived for his work. This is forcibly illustrated by the following incident - When the variety "Bobs", which was probably the earliest of his successes, was gradually growing into public favour, on one occasion, I remarked - "You must be very proud of the success now attending "Bobs"". "Oh, no", he said, "Do you know why I commenced this

work? It was because I wanted to think that when I died my life had not been wasted."

It is not generally known that Farrer refused a considerable fortune in order to continue his work; a very wealthy uncle gave him the alternative of leaving his work and returning to England or being disinherited. Fortunately, for Australia, Farrer chose the better way, and the money was bequeathed to a cousin.

Before he died he had the satisfaction of knowing that his work was appreciated abroad as well as in Australia. He was particularly pleased when, shortly before his death, the Indian Government sent Mr. Moreland, the Director of Agriculture for the North-West Province of India, on an extended visit to him in order to study Farrer's methods, with the object of initiating similar work in India. It is believed that one of the results of that visit was the production of the "Pusa" varieties, now proving so useful and valuable in Australia.

He died at the age of 61 on the 17th April, 1906. The cause of his death was a form of heart disease, "Angina pectoris." It was not T.B., which threatened him as a young man. Danger from this source had been averted by living a suitable life in a congenial climate. His death was sudden although not altogether unexpected. For some time before his death he knew how slender was his hold upon life, but this did not cause him to save himself; it seemed to spur him on. He thought that he might have worked another ten years, and felt that in those ten years there would be great possibilities. He died in harness, with a half-finished letter in front of him; he was busy preparing for the coming season's work after having just completed that of the past season.

What a suitable crown to the career of a successful and unselfish worker, who loved his work, and whose sole object in undertaking it was that when he came to die "He might think his life had not been wasted." At his own request his eternal resting place

is on the hilltop overlooking his former home. The outlook, as was his in life, is broad, free and bold. The rugged everlasting hills are typical of the enduring character of his work.

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