

With these conclusions in mind it is a comparatively simple matter to draw up a plan whereby man may systematically and scientifically utilize the forces of nature to his own advantage. The systematic selection of what we are now pleased to call fluctuating variations in field crops with a view to preventing deterioration is a very ancient practise. The idea of actually improving our crops is, however, of comparatively recent origin. Once improvement was considered possible several systems were devised. The Germans followed Darwin's enunciation that improvement was a gradual process resulting in the accumulation of slight favorable variations, hence, we have "The German system of plant improvement." We have a concrete example of the improvement that may be effected by this system in the famous Schlanstedt rye originated or developed by Rimpau. This system is practised largely in Canada at the present time by members of the Canadian Seed Growers' Association.

Le Couteur, an Englishman who worked during the beginning of the 19th century is said to be the first to apply the principle of selection to the improvement of cereals by selecting elementary types from the growing crop. One of his most noted selections is the Bellevue de Talavera wheat which originated from a single plant selected from the regular field. This was apparently a mutation as it continues to breed true and to show very slight deviation.

Patrick Sherriff, another Englishman, working about the middle of the 19th century produced the Mungoswell's wheat after making many attempts to isolate superior plants. This wheat is still said to be popular in certain parts of Great Britain.

In 1857, F. T. Hallett, of Brighton, England, began a line of work from another point of view. He believed that each plant had one best head and that each head had one best kernel. By making repeated selections through several generations the yield was materially increased when suddenly the maximum seemed to be reached and further improvement ceased.

During the last 20 years Dr. Nilsson, of Svalöf, Sweden, has been engaged in the breeding and improving of cereals and has secured some remarkable results. At first Nilsson practised the selection of such apparent fluctuating variations as appeared in the field sown in the ordinary way. He found, however, that his results by this method were not very satisfactory, so he changed his system and adopted the plan of selecting and propagating individual plants and, by a process of elimination, finally isolating those which were most desirable. This system enabled him to discover and take advantage of some of the mutations which might appear from time to time, and at the