

the seed coat in the relative roughness or smoothness of it, and in other characteristics. Those who had previously been sceptical as to the possibility of identifying species of plants with certainty from their seeds alone, were convinced before the meeting was over that this could be done, and that in many cases when the specimens of dried plants were so bad that it was impossible to identify them, a single seed would settle the whole matter. G. M.

THE CORRELATION OF CHARACTERS IN PLANTS AND ITS ECONOMIC IMPORTANCE TO THE PLANT BREEDERS.

(SYNOPSIS OF A TALK GIVEN AT A MEETING OF THE BOTANICAL BRANCH ON THE EVENING OF JANUARY 8TH BY MR. L. H. NEWMAN.)

It is a well known fact that certain characters in plants are more or less closely related and that any modification of the one is simultaneously followed by a modification of the other. Darwin considered the correlation of different parts of the individual to be an important factor in explaining some of the laws of variation. This tendency for the development of certain parts to follow the development of certain other parts is of considerable value to the practical plant breeder since his efforts to effect improvement along certain lines may be either offset or assisted by the development of other characters elsewhere in response to the disturbance within the organism. The nature of this bond of correlation is not understood although several have attempted to explain it.

Webber has classified the various forms of correlations under four heads, viz.: (1) Environmental, (2) Physiological, (3) Coherital and (4) Morphological.

Environmental correlation implies merely the response of a plant to its environment. In other words, if the soil be poor there will be a correspondingly poor growth: increase the fertility and the plant immediately responds.

De Vreis describes this class of variation as one in which two characters react similarly to external conditions. Liebenberg claims that increase in length of stem is correlated with increase in strength of stem, length of head, number of spikelets and total weight of kernel produced.

Grains grown under conditions characterized by a superabundance of light, heat, food or moisture produce extra long heads. In wheat these heads seldom produce more than an