

lenticular with pointed end. Generally highly glazed.

GRAMINEAE. (Grass Family).

Grain or caryopsis has small embryo placed at the base of the grain. Wheat grain is typical of the grain of many genera with palets removed. Some genera have highly glazed palets closely adhering to the caryopsis.

From the above it will be seen that the seeds of some families at least have certain characters peculiar to them which aid materially in their identification.

The identification of the species is a much more difficult matter and generally speaking requires long experience in order to become at all proficient in this connection. In the species of the genus *Brassica* for instance, it was pointed out that it is necessary to plant the seed of doubtful samples and produce the first foliage leaves at least in order to be sure of their identity. Within recent years that part of the study of botany which has to do with the seed has been largely overlooked although a most interesting field of work is offered in this connection.

Mr. G. H. Clark next presented the following paper:—

CONDITIONS UNFAVORABLE TO THE RESUMPTION OF GROWTH
BY THE DORMANT EMBRYO IN SEEDS.

True germination in seed producing plants takes place when the oospore germinates after fertilization within the ovule has been secured, which process of fertilization produces the oospore. The succeeding generation then commences in the development of the embryo, which, when ready to separate itself from the mother plant, is surrounded by, attached to, or contains within its cells a supply of nutriment necessary to its further growth. The seed is then said to be ripe, and the embryo plant may then be said to be ready to enter upon a period of rest. It is well known that with many kinds of seeds a rest period is enforced, which may be taken as one of nature's methods of providing for the perpetration of the species. Experiments conducted in the seed laboratory with many kinds of cultivated plants and with weed seeds make clear that this preservation of life, or delayed germination, varies considerably, even with fully ripened seeds taken from the same plant.

Conditions that are unfavorable to germination.

(a). Maturity of embryo. Although the seed may be said to be ripe when it has naturally separated itself from the mother plant, the embryo is not necessarily fully matured in the apparently ripe seed until such time as it may be able to commence with the process of secreting enzymes, which are necessary to the digestion of the food stored by it for the purpose of its nutri-