As it has long been recognized that soybeans, as well as other seeds, inoculated by this method sometimes give variable results in nodule formation, two lots of soybeans were inoculated by this method, in one case a neutral soil being used, while in the second case an acid soil with a hydrogen-ion concentration of pH 5.0 was employed.

Seeds from each lot were planted at frequent intervals, and as a result, it was found that the seeds inoculated with the muddy water made from the acid soil were free of nodule-forming bacteria within seven days. The seeds inoculated by muddy water made from the neutral soil retained viable organisms upon their seed coats for almost one year.

**SUMMARY**

1. The legume nodule organisms are able to survive for many years in an acid soil *in situ*, but are quickly killed upon the soil’s being air dried.
2. The legume nodule organisms of the soybean and cowpea were killed by a three-year storage of a soil with a 6,000-pound lime requirement.
3. The soybean organism was killed by three years’ storage of a soil with a 3,000- to 4,000-pound lime requirement, but the cowpea organism survived.
4. Both the soybean and cowpea organisms survived three years’ storage in soils having a lime requirement of 1 ton or less.
5. Seeds inoculated by the muddy water method where an acid soil is used retain viable organisms for only a very few days.
6. Seeds inoculated by the muddy water method where a neutral soil is used retain viable organisms for almost a year.

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**A NEW METHOD OF JUDGING WHEAT AT GRAIN SHOWS**

W. O. Whitcomb

The judging of grain and other agricultural products has been one of the important and difficult tasks in connection with county and state fairs for a number of years. Of even greater importance has been the placing of the large number of entries at the International Grain and Hay Show in Chicago each year. The object of this judging and placing of these various products is purely educational.

1*Contribution from the Grain Inspection Laboratory, Montana Agricultural Experiment Station, Bozeman, Mont. Published with the approval of the Director. Received for publication February 23, 1926.

2Superintendent.