

Miss Lorentz has experimented with many sorts of metals and reagents and has made convenient tables showing the best reagent for use with each metal for each purpose. These have been published as scientific papers of the Bureau. So that now, the man who wants to test a piece of copper may just look at the table under copper and learn exactly what is best for his purpose.

#### Information Center

Miss Lorentz also runs a sort of center or exchange of information of all sorts on the subject of metallurgy. She abstracts all current publications on this subject and indexes them in an up-to-the-minute file. This is probably the only such information file on metallurgy open to the public in the United States. She answers letters of inquiry from the public at the rate of over one hundred every month, and has daily many other requests for advice and data by telephone and personal calls. To meet repeated requests for the same data, she has compiled books on several metals.

*Science News Letter, July 15, 1933*



#### AUTOMATIC CHEMISTRY EXPERIMENT

*Every two minutes at a booth in Chicago's Century of Progress Hall of Science the famous thermite reaction used in one kind of welding is performed to show the principle of chemical exchange or double decomposition. Iron oxide is mixed with aluminum dust and when the mixture is ignited there results molten iron and aluminum oxide with the evolution of great heat.*

#### AGRICULTURE

## Disease Resistant Banana Promises to Save Millions

**V**ICTORY over the dreaded Panama disease which has cost banana growers millions of dollars in the last few years appears to be within measurable sight of achievement, according to experiments carried out by Prof. E. E. Cheesman, M.Sc., A.R.C.S., of the Imperial College of Tropical Agriculture, Trinidad.

Prof. Cheesman believes he has created a fruit which is completely immune to Panama disease and at the present time samples are being sent out to growers for further and more complete tests. Known as 1.C.2, the new variety has been planted alongside trees severely stricken with Panama disease in the grounds of the agricultural college here, yet no sign of the disease has been found.

In March, 1925, a variety known as 1.C.1, was evolved and this plant has proved to be completely resistant to Panama disease following continual close investigation ever since, but it has

the grave commercial disadvantage that an occasional seed is noted as a result of self-pollination when multiplied up by suckers and grown under ordinary banana field conditions.

The primary economic end kept in view throughout the investigation has been the production of a new variety of banana combining resistance to Panama disease with the good commercial qualities of Gros Michel, outstanding variety of northern markets.

Experiments carried out so far by Prof. Cheesman have shown that the new variety, 1.C.2, is completely seedless while it is hoped to produce fruit of a good size. Furthermore, it is hoped that it will have the other necessary required commercial qualities such as compactness of bunch, a fruit skin not abnormally sensitive to bruising, ability to stand up well to conditions of bulk transport, and an attractive appearance on ripening.

In regard to the seed aspect of the problem the difficulty is scientifically extremely complex for bananas are naturally reproduced by vegetative means. The plant breeder must first induce the formation of seeds and then, if he wishes, he must completely eliminate them again. A banana seed, which the great majority of banana-eaters in temperate countries have never seen, is about a quarter of an inch in diameter, black in color, and very hard. Naturally, the presence of these seeds in the fruit would not enhance its market value.

In attaining his present success, Prof. Cheesman has had to explore the whole genetics of bananas and the breeding work has necessitated the introduction and study of a wide range of varieties.

The Imperial College collection contains about one hundred "numbers" obtained from several parts of the Tropics. Tests have been made with all these during the effort to produce a specimen immune to Panama disease.

A Londoner by birth, Prof. Cheesman has been engaged in his research work at the Imperial College for the past ten years.

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