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# ASSOCIATION NEWS

## REPORT OF THE MAY 24-25, 1946 MEETING, Continued

With President-elect Stage absent because of the railway strike and with President Ruth presiding, as stated in an earlier number of Mosquito News, the program was started by President Ruth with the announcement that since Dr. Bishopp and Dr. Ginsberg (both on the morning program) were likewise absent, the entire morning session would be available for discussion of the remaining item

on the morning program, namely, *The Significance of Particle Size in Sprays and in Aerosol Fogs*, and that the subject would be opened with a paper read by Dr. R. D. Glasgow, who would then lead the discussion.

Dr. Glasgow spoke informally, substantially as indicated in the manuscript submitted.

### THE SIGNIFICANCE OF PARTICLE SIZE IN SPRAYS AND IN AEROSOL FOGS<sup>1</sup>

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Many insect pests, including mosquitoes, many fungus diseases of crop plants and of fruits, and even weeds of many kinds may be suppressed by introducing into their environment some poison or other factor that in one way or another may prevent their normal activities.

Such poisons are usually applied either dry in the form of dusts, in liquid form as sprays or mists or fogs, or as a gas; the dusts being more or less finely pulverized solids, the gaseous poisons in general being limited to use in closely sealed enclosures, and the liquid sprays or mists or fogs being distinguished, as the names indicate, by the range of drop-diameters characteristic of each.

#### CONTRIBUTIONS FROM THE STUDY OF "SMOKES" FOR WAR USE

While the greater effectiveness of more finely dispersed insecticide and fungicide dusts and sprays was recognized even before the recent war, our understanding of the behavior of small particles, and the development of improved mechanisms for their production and use have been tremendously advanced through special studies prompted by war needs.

Under war compulsion, much money and scientific effort were expended upon intensive studies of minute particles dispersed in air, and of means for the production of aerosol fogs.

These studies had various objectives. One objective, for example, was better knowledge concerning the production and behavior of, and possible defense against minute particles or "smokes" of special chemicals which would pass unchecked through the canister of a gas mask, and by producing tears or inducing a paroxysm of violent sneezing, would force the wearer to remove his mask and thus become exposed to an accompanying poison gas. An even more immediately important objective was the development of new and better, and more abundantly available sources of screening "smokes" for use especially in battle to conceal the movement of troops or of ships.

Since the dawn of history, screening smokes have been used for concealment in warfare. According to early records smoke from smudge pots, or even from incendiary conflagrations was commonly used. During the first world war, chemical "smokes" similar to those employed by sky-writers were tried. During the second world war, however, screening smokes were required in such huge

<sup>1</sup> Many of the data given are adapted from "Clouds and Smokes" by W. E. Gibbs, and from the "Handbook of Chemistry and Physics," edited by Charles D. Hodgman.