Practical Considerations.—The relative advantages and disadvantages of the three similar seed-disinfectants, Uspulun*, Germisan, and Semesan, will be considered together under the heading of Semesan.

GERMISAN.

Germisan is the trade name of a preparation of mercury-cresol-sodium cyanide manufactured by the Saccharin-Fabrik, Aktiengesellschaft, vorm. Fahlberg, List and Co., Magdeburg, Germany, the British agents being Ronsheim and Moore, London. Like Uspulun, it is claimed to control stinking-smut and stimulate the wheat-plant. The price is about 8s. per pound, or about 5½d. per bushel of seed treated.

Method of Treatment used in Experiments.—The smutted seed was steeped for half an hour in a 0·25-per-cent. solution of Germisan, and then spread out on blotting-paper to dry.

Summary of Experimental Results.—(*a.*) Effect on the smut: Complete control of stinking-smut was given by the Germisan treatment in all the experiments.

(*b.*) Effect on the wheat-plant: With the Pearl, Hunter's, and Purple-straw Tuscan the percentage germination was higher than that of the untreated controls; with the Solid-straw Tuscan it was slightly lower. In all, the vigour of the seedling was increased by the treatment, and the total heads harvested in all cases showed a substantial increase over adjacent controls.

SEMESAN.

Semesan is the trade name of an organic mercury compound manufactured by E. J. Du Pont de Nemours and Co., Wilmington, Delaware, U.S.A. The makers claim that, like Uspulun and Germisan, it will control stinking-smut and at the same time stimulate the wheat-plant. It can be used in solution as a steep, or as a dry powder mixed with the seed. The price is about 13s. 4d. per pound, or about 7d. per bushel by the steep method and about 10d. per bushel by the dry method.

Method of Treatment used in Experiments.—(*a.*) Steep method: Smutted seed was steeped for one hour in a 0·2-per-cent. solution of Semesan, and then spread out on blotting-paper to dry.

(*b.*) Dry-dust method: Smutted seed was thoroughly shaken in a closed container with dry Semesan at the rate of 1 oz. per bushel of seed.

Summary of Experimental Results.—(*a.*) Effect on the smut: Complete control of stinking-smut was given by Semesan both by the steep and dry methods in all the experiments.

(*b.*) Effect on the wheat-plant: The differences in percentage germination and vigour of seedling between the seed treated by the steep method and the adjacent controls varied with the four wheat varieties, but on the whole were too small to be significant. In the total heads harvested the two Tuscans showed a substantial increase in favour of the treatment, and the Hunter's a very slight and the Pearl a greater decrease.

* The samples of Uspulun and Germisan used in these experiments were kindly procured for the writer by Dr. E. J. Butler, Director of the Imperial Bureau of Mycology, Kew, London.