



SEGMENTS—Modern swift production for war calls for manufacture of the fuselage of the CG-4A transport glider in two segments, later slapped together. Here is a row of tail segments being produced at the Boeing Airplane Company plant.

same kind of soil nutrients available, but different rainfalls, two crops of bread wheat will have entirely different protein contents. The amount of ascorbic acid, one of the most important of vitamins, in tomatoes is powerfully influenced by the number of hours of sunlight per day received by the plants. Light intensity, as well as length of daylight period, affects

the vitamin content of certain fruits and vegetables.

A great deal of research on this subject yet remains to be done, Dr. Maynard stated, and he emphasized: "Consideration needs to be given to yields of nutrients as well as to tons or bushels per acre, to nutritional quality as well as to market quality."

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MEDICINE

New Surgical Dressing

Sulfa drug film like a paper tissue is developed for use on burns, cuts and skin grafts. Its usefulness in war surgery is foreseen.

➤ A NEW KIND of surgical dressing for burns and wounds, expected to be of great use to our armed forces, has been developed by Dr. Kenneth L. Pickrell, of the department of surgery at Johns Hopkins University and Hospital.

It is a film which looks something like rough waxed paper but which carries a powerful wallop against germs in its 30% to 50% content of sulfadiazine.

These sulfa drug films have been used in more than 100 cases, about 50 of which were patients with burns, Dr. Pickrell reports. (*Bulletin, Johns Hopkins Hospital*, November.) In 30 of the

burned patients, bacteriological studies showed no evidence of infection. In the other cases bacteriological studies were not made but no signs of infections were seen on inspection of the wounds and burned areas.

When used on burns, the burned surface and surrounding skin is first cleaned with a surgical detergent if there is gross contamination. The area is then washed with salt solution, sulfadiazine or azo-chloramid solution, and while the area is still wet the sulfa drug film is put on, over which a smooth, firm pressure dressing of gauze is applied. The sulfa film

is left in place for three to five days, at the end of which time, in second degree burns, new skin will be forming.

In third degree burns and in wounds or sores with discharge, the film may be renewed as desired. Since the film is translucent, the surgeon can inspect the wound or burn without removing the film.

The sulfa film is made by preparing an emulsion of 3% sulfadiazine or 3% sulfanilamide, 2.5% methyl cellulose (this is one of the newer plastics materials), 3% triethanolamine and 0.5% sorbitol with 50% alcohol or acetone to make 100 cubic centimeters (about three ounces). This is sprayed on a smooth horizontal glass surface with a pressure gun or paint spray apparatus and allowed to dry, after which it is removed in a single sheet.

The sheets can be made any size, but at Hopkins they are cut in three-inch widths and rolled just like any bandage. They keep well and can be sterilized by dry heat. They are light in weight and can be packed easily in sheets, tablets or rolls.

Physicians who have seen them on visits to the Hopkins Hospital have been interested and enthusiastic about them and several of the larger commercial houses are beginning to prepare them. The films were developed following Dr. Pickrell's discovery that a solution of sulfadiazine in triethanolamine was effective in treatment of burns and his and other Hopkins doctors' successful use of this solution in combating sinus infection, complications of the common cold, irrigating infected wounds and sinuses, preparing the surgical site for operations around or in the eyes and various body openings, and for fighting infection in skin grafts. Certain disadvantages of this solution, such as slow drying time and the thinness and fragility of the film it formed, led to development of the stronger film with methyl cellulose.

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GENERAL SCIENCE

Northwest Scientists Cancel Their Meeting

➤ LATEST war casualty among scientific meetings is the Northwest Scientific Association, whose officers have voted to cancel plans for a forthcoming meeting. Research activities and grants will be continued.

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There is no staple food which cannot be grown in the Americas.