

meal, as a partial source of protein in the basal vitamin A-deficient diet, causes the vitamin A to be more effectively used when it is supplied. It has been suggested that there is a factor in coconut meal which, combined with vitamin A, makes the vitamin more effective or which facilitates the transformation of carotene to vitamin A. So far as is known, vitamin A does not affect the growth of plants, but any connection between the physiology of carotene and of extracts of coconut is suggestive in the light of the results here reported. It is also interesting that coconut milk has been known to be used to supplement the nutrition of human infants in the tropics.

(3) The best growth of animal tissue cultures is well known to be fostered by a preparation of 9-day-old chick embryos (6). The effects due to the "embryo juice" in the culture of animal tissues is suggestive in view of the marked effect here reported by the use for plant tissue cultures of a nutritive fluid for a plant embryo.

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An Effective Depilatory Formula for Use on Laboratory Animals

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For a series of skin tests in the rabbit it was necessary to remove the hair from an extensive area of the abdomen quickly, completely, and with minimum trauma to the skin. The characteristically soft and luxuriant growth of hair in the rabbit quickly clogs mechanical clippers, whereas shaving is slow and traumatic. Chemical depilatories are frequently used, but the existing formulations either are intended for human use where only slight amounts of hair are to be removed or, when intended for laboratory use, are so caustic and vigorous in action that some burning of the skin ensues even if used cautiously.

In an attempt to circumvent these disadvantages we have prepared a depilatory that has been successfully used on a large number of laboratory animals.

The most common depilatory agents are the inorganic sulfides. Of these, only barium and strontium sulfide are stable and active enough to be practical (1, 3). The barium salt is preferred because it is cheaper and more readily obtainable. The depilatory is prepared by triturating two-thirds by weight of purified yellow barium sulfide powder with one-third by weight of a commercial detergent. We have used "Tide"¹ exclusively, but other detergents such as "Dreft,"² "Orvus extra granules,"³ and "Swirl"³ appear to be equally effective. Three full teaspoons (25-35 gm) of the depilatory are mixed with 50 ml of a 10% glycerine-in-water solution until a smooth, creamy suspension is obtained. The area to be depilated is thoroughly wetted down with water. The depilatory is then applied with a wooden tongue-depressor blade and gently worked into the hair. The hair will be seen to gelatinize quickly and practically dissolve. The dissolved hair-depilatory mixture is carefully moved back and forth over the skin surface, particularly where the depilating action seems to be slower. Additional water may be sprinkled on to prevent drying. When the hair is completely removed, the area is rinsed off with a copious amount of water to insure complete removal of any sulfide residue. In this manner the abdomen and chest of a large rabbit can be depilated in approximately 5 min.

The action of the detergent in the mixture is fourfold. It enables the depilatory to come into intimate contact with the hair shaft; it produces a smooth, creamy suspension that is conveniently applied; it acts as a diluent; and it suppresses the odor of hydrogen sulfide that is associated with sulfide depilatories. Ordinary soap powder may be used, but the depilatory action is slower than when a detergent is employed. Water may be substituted for the 10% glycerine, but the latter is advantageous in that it produces a softer and smoother skin through its emollient action and it also retards the rate of drying. Bulfer, *et al.* (2) found that the monoethyl-ether of diethylene glycol (Carbitol³) acts as a better stabilizer than glycerine, but this compound is not commonly found in the laboratory—a consideration that was used as a guide in formulating the depilatory.

The sulfide-detergent mixture has been used on various species of laboratory animals. In addition to its efficacy in rabbits, equally good results have been obtained with mice and in the preoperative preparation of dogs, cats, and monkeys, with no indication of secondary infections or delayed wound healing.

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¹ Procter and Gamble, Cincinnati, Ohio.

² Allied Chemical and Dye Corporation, New York City.

³ Carbon and Carbide Chemicals Corporation, New York City.