TABLE II.
Daily Iodine Output.

Origin	Output	I. Gamma %	Mg. I.
Urine	10.1 to 18.6 l.	269 to 1005	34.6 to 130.0 (a)
Feces	9.1 to 29.5 k.	140 to 468	15.2 to 71.5 (a)
Milk	7.7 to 27.5 l.	15.7 to 181.9	1.5 to 19.5 (a)

The milk iodine was increased. It ranged from 15.7 to 181.9 gamma per 100 cc., averaging 66.4. The average iodine content of milk from cows on usual feed is 5 gamma per 100 cc.[2, 3]

All physical examinations showed the cows to be in very good general condition. Cows of the herd previously sterile have become pregnant and borne normal calves during this regimen of feeding. The calves developed normally. No objective symptoms of abnormalities were discerned in the entire herd. There was no evidence of hyperthyroidism. The milk and butter fat production of the entire herd has definitely increased during this period of increased iodine feeding. During the year 1932 one of these cows became one of the highest milk producers of the breed.†

7231 C

Scalp Products and Hair as a Culture Medium for Certain Pathogenic Fungi.

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In the present work observations were made of the growth of certain pathogenic fungi on hair. Bonar and Dreyer[1] used bundles of hair inoculated with trichophyton interdigitale to test antiseptic properties of solutions. Tona[2] observed the growth of trichophyton on hair in the test tube. The growth of the various pathogenic fungi (dermatophytes) on a medium of scalp products and hair seems to have received little attention.

The medium used consisted of barber shop hair cleansed with water, placed in petri dishes and test tubes and autoclaved. It was

[3] Schwaibold, J., and Scharrer, K., *Biochem. Z.*, 1927, **180**, 334.

† Milk—21, 924.9 lb., butter fat—1,037.1 lb., % butter fat—4.73, for 1932, by G. V. L. No. 18823.

[1] Bonar, Lee, and Dreyer, A. D., *Am. J. Pub. Health*, 1932, **22**, 909.

[2] Tona, A., *Ann. de dermat. et syph.*, 1928, **10**, 194.

found necessary to keep the medium moist with distilled water by adding an amount sufficient to cover the mat of hair. Growth on this medium was compared with that on conservation Sabouraud's. Sabouraud's conservation medium was chosen as a standard because of its simplicity. Bacto products were used in making the media.

Transplants were made from 30-day-old growths of the organisms on Sabouraud's proof agar incubated at room temperature.

Approximate time of growth of the following pathogenic fungi and the 2 saprophytes, *Lichtheimia sp.* and *Scopulariopsis brevicaulis* were noted: *Achorion schoenleinii, Acladium castellani, Candida candida, Endodermophyton tropicale, Endomyces capsultus, Endomyces dermatitidus, Epidermophyton inguinale, Glenospora gammeli, Geotrichum bachmann, Indiella americana, Monilia albicans, Microsporon apiospermum, Microsporon audouini, Oöspora humi, Trichophyton crateriforme, Trichophyton granulosum, Trichophyton japonicum, Trichophyton interdigitale, Willia anomala.* Observations were limited to 30 days. Nine organisms which grew well on Sabouraud's medium showed no growth on water hair; *Achorion schoenleini, Acladium castellani, Candida candida, Endomyces dermatitidus, Epidermophyton inguinale, Glenospora gammeli, Microsporon audouini, Oöspora humi,* and *Willia anomala.* Since the pathogenicity of the *Microsporon audouini* manifests itself before puberty its growth was observed on a medium of child's hair. Growth was noted in 7 days as contrasted to more than 30 days on the barber shop water hair medium. In the majority of instances growth on conservation Sabouraud's medium occurred more rapidly than on water hair medium. In both, growth within 4 days was noted with *Indiella americana, Lichtheimia sp., Microsporon apiospermum, Scopulariopsis brevicaulis, Trichophyton japonicum* and *Trichophyton interdigitale.* Growth was noted within 4 days on the conservation Sabouraud's and within 7 days on the water hair with *Geotrichum bachmann* and *Trichophyton granulosum.* Growth was noted within 4 days on the conservation Sabouraud's and within 20 days on the water hair with *Endomyces capsulatus, Monilia albicans* and *Trichophyton crateriform.* Growth was noted within 7 days on the conservation Sabouraud's and within 5 days on the water hair with *Endodermophyton tropicale.* Although the number of pathogenic fungi growing on water hair medium seems limited and their growth in many instances is slow, importance is attached to this observation since it is possible to visualize human scalps as

possible foci of these organisms with or without resultant local symptomatic manifestations.

Ability of certain of these organisms to grow on hair should prove a point of differentiation. Determination of the growth factor will necessitate the separation of the hairs from the desquamated epithelial scales and the secretions of the scalp. This work is now in progress.

7232 P

Reduction of Methylene Blue by the Blood of Young Infants.

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The blood of infants shows significant alterations in the first few months of life. Most pronounced, perhaps, is the drop in the number of red blood cells and in hemoglobin. Another hitherto unrecognized feature apparently characteristic of this period is the rapidity with which the blood decolorizes methylene-blue.

The method employed in this investigation was as follows: A stock solution was prepared by dissolving 200 mg. of methylene blue* in 40 cc. of 3% sodium citrate* in doubly distilled water at pH 7.4 to 8.1. After filtration 0.07 cc. of this solution was dissolved in 50 cc. of sodium citrate of the same strength, giving a final concentration of methylene blue of approximately 1:140,000. This solution was left at least 24 hours in the ice-box before use. For each test 4 samples of freshly drawn blood was added to 0.1 cc. of the methylene blue solution. The quantities of blood with youngest subjects were .02, .03, .04, and .05 cc. respectively, and a range of .03 to .06 cc. in the older ones. The contents were thoroughly admixed and kept at 15°C. for 1 hour. The tubes were then centrifuged for 2 minutes. The extent of reduction was 0 when the dilute blue color was unchanged, to 4 plus when the dye was completely reduced to that of water.

This study included the blood of 238 healthy individuals, 152 under one year of age, the remainder ranged to 40 years. The results are summarized in Table I.

* Methylene Blue, U. S. P. Medicinal, National Aniline and Chemical Co. Sodium Citrate, Baker's Analyzed.