follicles, atretic follicles or of corpora lutea. Further, this condition causes an increase in pressure upon the follicle, as a result of which there is a corresponding increase in pressure upon the egg. Since this condition has been found in each of the 60 eggs studied, it is concluded that this increase in pressure plays some part in the initiation of development of the ovarian ova as found in the white rat.

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Factors Determining the Ergosterol Content of Fungi.

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Since 1927 this laboratory has been engaged in the development of high-yielding ergosterol sources. The fungi being characterized by a relatively large ergosterol content, numerous representative species were investigated and the factors influencing the elaboration of ergosterol determined.

We used 25 true yeasts, 4 pseudo yeasts, 18 molds, 3 mushrooms, and 2 bacteria. We found that the inherent ergosterol producing capacities of the different species vary enormously, and that by manipulating the cultural conditions these capacities may be attained or repressed.

The bacteria, bovine and human types of *Mycobacterium tuberculosis,* showed no ergosterol by spectrographic assay (*cf.* Prickett, Massengale, and Cox[1]). Also Anderson and Chargaff[2] found no cholesterol or any substance giving sterol color reactions in the unsaponifiable matter from a human type of *M. tuberculosis.* Apparently this is the first one of the fungi in which no ergosterol has been found; the absence of ergosterol is all the more surprising when the high lipoid content of this organism is considered. Of the other fungi the yeasts showed the widest variation. *Saccharomyces logos* contained but a trace, while *S. carlsbergensis* developed 2.4% of ergosterol. Spectrographic analyses and actual extractions of the more promising molds—representatives of the *Mucors, Penicillia,* and *Aspergilli*—and also the pseudo yeasts and mushrooms, gave values between the extremes of the yeasts. It is interesting to note

[1] Prickett, P. S., Massengale, O. N., and Cox, W. M., Jr., *J. Bact.,* 1930, xix, 8.

[2] Anderson, R. J., and Chargaff, E., *J. Biol. Chem.,* 1929, lxxxiv, 703.

that Heiduschka and Lindner[3] found in a *Penicillium* 0.8% of ergosterol colorimetrically, which is the same value that we obtained spectrographically with a *Penicillium* cultivated in one of our media.

In general, we found that for a given fungus a neutral or slightly alkaline medium was conducive to vigorous growth and relatively large ergosterol production. An abundant air supply was not only favorable but essential. Temperature *per se* did not seem to be an important factor, but in connection with time and the available supply of nutrients it exerted an influence. We have so far been unable to observe that salts other than those essential for the vigorous growth of the organisms exert any marked effect; however, we found that the concentrations and combinations of salts had noticeable effects, especially on the amount of growth obtained. A good source of carbohydrate and nitrogen was found in beet molasses, or a mixture of beet molasses with other sugars, or such mixtures with added urea. In most cases high ergosterol percentage was associated with vigorous growth, but not all cultures which grew vigorously elaborated large amounts of ergosterol.

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Effect of Oestrin on Gonad Stimulating Power of the Hypophysis.*

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Smith and Engle[1] showed that the anterior lobe of the hypophysis of the guinea pig in oestrum is less potent in its gonad stimulating power than the hypophysis of animals in the dioestrum. Burch and Cunningham[2] reported that injection of a commercial placental extract, containing considerable amounts of oestrin, into adult, castrate, female rats tends to increase the gonad stimulating power of the pituitaries of such animals, as compared with non-injected castrate controls of approximately the same weight. The period of injection in their experiment was 6 days and the dosage employed was from

[3] Heiduschka, A., and Lindner, H., *Z. Physiol. Chem.*, 1929, clxxxi, 15.

* Assisted by grants from the National Research Council, Committee on Problems of Sex.

[1] Smith, P. E., and Engle, E. T., *Anat. Rec.*, 1929, xlii, 38.

[2] Burch, J. C., and Cunningham, R. S., PROC. SOC. EXP. BIOL. AND MED., 1930, xxvii, 331.