

NUTRITION

Drug Promotes Growth

The golden wonder drug, in addition to its curative properties, now accelerates growth by as much as 50 per cent.

► THE discovery that the golden drug aureomycin is a potent growth accelerator, producing effects beyond those obtainable with any known vitamin, was announced in a report to the American Chemical Society recently.

In animal experiments which cast the antibiotic in a spectacular new role, and which may hold enormous long-range significance for the survival of the human race in a world of dwindling resources and expanding populations, aureomycin has increased the rate of growth of hogs by as much as 50%, declares the report of Dr. E. L. R. Stokstad and Dr. T. H. Jukes of the Lederle Laboratories Division, American Cyanamid Company, Pearl River, N. Y.

Although aureomycin's hitherto unsuspected nutritional powers promise to be of importance primarily in extending the world's meat supply and decreasing its production costs, they may also prove directly beneficial to human health by aiding the growth of malnourished and undersized children. Clinical investigations of this possibility are now under way.

Up to now aureomycin, like penicillin, streptomycin, and the other antibiotic wonder drugs, has been regarded solely as a weapon for fighting disease. Aureomycin has been found particularly useful against such ailments as virus pneumonia, whooping cough, Rocky Mountain spotted fever, undulant fever, typhus, eye infections, amebic dysentery, streptococcus and staphylococcus infections, and parrot fever.

Aureomycin's growth-promoting value was discovered in the course of research on vitamin B-12, another powerful growth stimulator.

Chicks and turkey poults as well as pigs have registered unprecedented gains upon receiving minute quantities of the drug in the form of a finely ground powder mixed with their feed.

Aureomycin, in the experiments conducted so far, has been found to produce a growth response that "cannot be duplicated by any of the vitamins known at the present time, even when added in many times the normal requirement." No undesirable side effects have been observed.

Aureomycin was first isolated about four years ago by Dr. B. M. Duggar of the Lederle Laboratories and derives its name from its golden color—aurum being the Latin word for gold. It is the first antibiotic to be used to promote growth in farm animals, although laboratory tests of the nutritional value of some other antibiotics have been made.

Exactly how aureomycin works in speeding growth is something yet to be determined. Since other antibacterial agents with widely differing chemical structures can produce similar though less dramatic results, it seems unlikely that aureomycin functions as a vitamin. "It is more probable that it inhibits growth of certain detrimental microorganisms in the intestinal tract. These bacteria may rob the intestine of some unknown vitamin, or they may produce a toxic compound."

The value of animal protein products as supplements to vegetable protein rations has been known for some time. More recently it has been found that the activity of these animal protein supplements is due to a vitamin which has been designated the animal protein factor, often called APF, and which includes vitamin B-12.

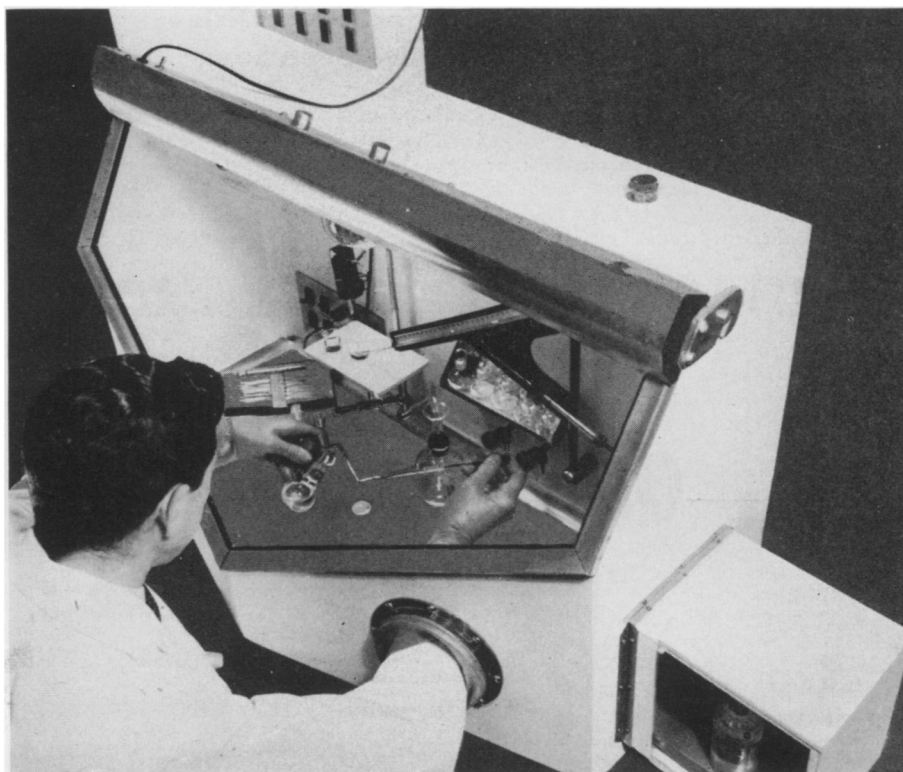
Aureomycin, like penicillin and strepto-

mycin, is obtained from a mold by fermentation. Fermentation products used in the preparation of antibiotics were found to contain vitamin B-12, and these materials were developed as commercial sources of the animal protein factor for the feed industry. A product prepared from the aureomycin fermentation gave a growth response with chicks which was greater than that which could be obtained with pure vitamin B-12. This precipitated a coast-to-coast series of experiments which yielded the recently reported results.

Experiments showed that while an animal protein factor supplement made from an aureomycin fermentation product produced a marked increase in growth, vitamin B-12 supplements produced no growth response in turkeys.

Similar results were observed with pigs at the University of Florida. Thus, results with chicks, turkeys, and pigs showed that the aureomycin fermentation contained another growth factor in addition to vitamin B-12. This second growth factor does not occur to any appreciable extent in natural feedstuffs, with the possible exception of fish meal. This second growth factor is the antibiotic aureomycin.

The amount of aureomycin needed to produce a response is small, it is emphasized. Twelve milligrams—or about four



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