

billions of grass plants. We turned out those roots, and plowed and disked and harrowed and loosened the soil to plant wheat. A dry, warm winter kept the soil loose—and the wind did the rest.

Secretary of Agriculture Wallace, "dirt scientist" before he became an administrator, has warned persistently against the loosening of Great Plains

soil in the windstorm belt. The remedy, he and his fellow agronomists and ecologists keep telling us, is: get that dry country back into grass. Plant tree belts, too, if you like, to break the force of the wind; but to tie down every square inch of now truant soil, use the living cords of grass roots.

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already known to prepare the uterus for the reception and nourishment of the developing offspring also can manufacture vitamin C. The experiment, however, does not disprove the manufacture of vitamin C by the unborn infant. Dr. Bourne says it is probable that the vitamin manufacture takes place first in the corpus luteum and then is either taken over or supplemented by the infant once it has developed from the embryo to the fetal stage.

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PHYSIOLOGY

Sex Gland May Manufacture Scurvy-Preventing Vitamin C

SCURVY-preventing vitamin C, found in certain fruits and vegetables, is manufactured in the bodies of infants and probably also in the bodies of mothers for a time before the infants' birth. Evidence suggesting the maternal manufacture of this important vitamin, apparently as part of nature's provision for prenatal nourishment of the young, has been found by Dr. Geoffrey Bourne of the Australian Institute of Anatomy, at Canberra, Australia.

The discovery is significant because for the most part man at all ages has to depend on his food for his supply of necessary vitamins. So do most other animals. The mother substance of rickets-preventing vitamin D, to be sure, exists in the skin, but irradiation with ultraviolet light is required to convert this substance into the vitamin. The only other exception is the probability that fish like the cod manufacture in their bodies at least some vitamin D.

The starting point for Dr. Bourne's experiments, it appears from his technical report (*Nature*, Jan. 26) was the research of other scientists who found that the human infant up to the age of five months manufactures vitamin C in

its own body, and that pregnant guinea pigs fed a scurvy-producing diet developed the disease only very slightly or not at all.

Dr. Bourne also knew that the ovarian structure known as the corpus luteum has a high concentration of vitamin C in its cells. This structure produces a hormone, progesterin, which prepares certain maternal tissues for the reception and nourishment of the beginning embryo.

In Dr. Bourne's experiment a pituitary gland hormone was given to young virgin rats to stimulate the production of the corpus luteum tissue. These rats and two other groups of rats, some pregnant and the others untreated virgin animals, were then fed a scurvy-producing diet. The untreated animals all died of typical scurvy within a fortnight. The pregnant rats lost very little weight and appeared much the same at the end of the experiment as at the beginning. The treated rats lost considerable weight but were active and showed no signs of scurvy, although two died of an acute infection.

The experiment "suggests," in Dr. Bourne's scientifically conservative words, that the corpus luteum which is

METEOROLOGY

Much Snow on Mountains For Next Summer's Needs

WEATHER observers in the mountain areas of the West, where summer irrigation must depend on snows of the preceding winter, report encouraging conditions to the central office of the U. S. Weather Bureau in Washington, D. C. In the mountains of the Pacific coast states especially the snow packs are deep and heavy, and on the whole much greater than last year's; at the same time the water already in the soil is more abundant. Farther east, in the Great Basin and Rocky Mountain regions, soil water is not so nearly up to standard, due to cumulative drought of several years, but the snow supplies on the upper slopes are encouragingly large.

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PHYSICS

New Theory Increases Electron's Size Ten Times

A NEW theory of the electron's size which makes it ten times larger than previously held concepts of scientists was announced by the world-famous physicists, Prof. Max Born of Cambridge University and Prof. Erwin Schroedinger of Oxford University. (*Nature*, March 2.)

The electron is one of the fundamental particles out of which all matter is composed. Present estimates of the electron's size suggest that some ten trillions of them side by side would be less than a half inch long.

Prof. Schroedinger was co-winner of the 1933 Nobel Prize in Physics, and Prof. Born has long been noted for his mathematical theories of atomic structure. Both men are former German scientists now in the academic shelter of England.

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