

BIOCHEMISTRY

Aid Artery Hardening Prevention by Iron Diet

► A NON-DIET method of controlling artery hardening seems in prospect for the future. Instead of cutting out all fats, eggs and many other foods containing cholesterol, patients would take an iron medicine.

This suggestion is made by Drs. M. D. Siperstein, C. W. Nichols, Jr., and I. L. Chaikoff of the University of California in *Science* (April 10).

The cholesterol-free diet is under trial in some places on the theory that too much cholesterol in the blood causes fatty degeneration of artery walls.

Bile, the California scientists find, favors absorption of cholesterol from the intestines. Adding bile to a cholesterol diet fed to chickens increased enormously the amount of cholesterol in the birds' blood plasma.

Adding the iron compound, ferric chloride, to the bile and cholesterol diet kept the cholesterol in the blood way down. This is probably because the iron compound binds the bile salts. The iron compound had the same effect when given to birds fed a regular diet plus cholesterol but without the bile.

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VITAL STATISTICS

200,000 U. S. Lives Saved By Medical Advances

► A SAVING of 200,000 lives in five years has been achieved in this nation by "the rapid advances in medical science, the steady rise in the general standard of living and improved safety measures," statisticians of the Metropolitan Life Insurance Company report in New York.

About one-fourth of the lives saved are those that would have been taken by heart and blood vessel diseases. Most of this saving was in women's lives.

The figures on life savings are calculated by comparing the number of deaths in the United States in 1950 with the number that would have occurred if the 1945 death rates had prevailed.

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Spiny Globe-Trotter

► THE CACTUS family as a whole is pretty strictly American, and most of its 1,500-odd species have remained in their native hemisphere.

A few kinds of the oval-jointed prickly-pear cactus have, however, penetrated into practically every part of the world where the climate suits them. They have made themselves so thoroughly at home that in most places where they now grow they are regarded as part of the native vegetation.

In most places the prickly-pear cactus was introduced as a botanical curiosity for rock gardens, or possibly for its edible fruits. Once established, it has shown a mobility in migration astonishing in a plant not equipped with special dispersal means.

Where it has been considered useful or ornamental, the cactus has of course had plenty of willing human aid; but it has also managed to spread over wide areas of semi-arid land where man-assisted propagation is out of the question.

Lack of special dispersal means have been largely offset by the high survival ability of the plant. One of its leathery-skinned, succulent joints, chance-snagged on the wool of a sheep, might ride only a few hundred yards or at most a mile or so. But where it fell off it would not perish like the twig or leaf of an ordinary plant; it would strike root and grow up into a healthy, bristly cactus bush.

The role of birds, rodents and other animals in carrying cactus seeds is not at all well known, but it must be of some significance.

In some of the lands to which it has been carried, prickly-pear has become a major pest. Most spectacular, of course, was the case of Australia, where the plant was rendering millions of acres of the best grazing and farm lands unusable. Importation of the cactus moth as a counter-pest came just in the nick of time.

On the other hand, cactus is a prized hedge plant on Madagascar and one or two

other tropical islands where cattle are numerous and have to be kept out of yards and gardens.

Prickly-pear cactus demonstrated its capacities as an emigrant plant very early. It appeared in the Mediterranean basin very soon after the discovery of America, and in a few decades was all over the lands on both shores. It has become so common in Palestine, for example, that one of the most common of artists' anachronisms is to paint it into Biblical scenes as part of the landscape of 2,000 or more years ago.

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ENTOMOLOGY

Tumor-Causing Hormone Stimulated in Cockroach

► COCKROACHES FROM Latin America, which are two inches or more long, are the charge of a woman scientist at the University of Colorado, Dr. Berta Scharrer, who came over from Germany in 1945. She found a parallel between the hormone producing centers of the brains of higher animals, like man, and of the cockroach. In both animal and cockroach, hormones produced in these centers pass along nerves to a place for later usage.

Dr. Scharrer cut this nerve in the cockroach. Hormone production in both the brain center and the terminal point of the nerve pathway was stimulated. This terminal point, known as the corpus allatum and which also produces hormones, becomes greatly enlarged, with the result that tumors developed.

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TECHNOLOGY

"L" Fence Staple Outdoes U-Shaped Ones in Tests

► A POWERFUL little fence staple with a threaded shank sticks to the job even when shock loads are 90% larger than ordinary staples can take.

Tests at the Virginia Polytechnic Institute Wood Research Laboratory, Blacksburg, reveal that the L-shaped fence staple does its job better in creosote-treated posts than the conventional U-shaped staple.

The new staple has a long shank and a short one. The long shank is threaded with wood-gripping flanges that dig into the wood. The longer the staple remains in the wood, the harder it is to get out. Ordinary plain-shanked staples slowly lose their holding power and eventually fall out.

This is particularly true with creosoted posts. Creosote acts as a lubricant and cuts the holding power of plain staples by as much as 40%.

The strong little Samson is made by the Independent Nail and Packing Co., Bridgewater, Mass. Currently it is being distributed to lumber yards, building-materials dealers and hardware stores as a replacement for the ordinary U-shaped staples.

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