

PUBLIC HEALTH

Sample Milk for Drug

A technique that can detect minute amounts of penicillin in milk within a very short time will aid the Food and Drug Administration in its new milk survey.

THE FOOD and Drug Administration will shortly begin tapping milk supplies throughout the country in an effort to detect and remove from the market all milk that contains penicillin.

A recent nation-wide milk survey disclosed that more than three percent of the samples contained this very potent antibiotic.

Although its concentration in milk is very low, penicillin is capable of causing reactions in highly sensitive persons. More than 18,000,000 Americans could have reactions from these small amounts.

Persons allergic to this antibiotic may develop a fever or rash, or experience severe vomiting.

The basis for sampling is a new technique that can detect the presence of as little as 0.05 units of penicillin per milliliter of milk within two and one half hours. The method currently used takes up to 18 hours, a long delay for a perishable food such as milk. Dr. Henry Welch, division of antibiotics, Department of Agriculture, told SCIENCE SERVICE.

Beginning soon, milk shipped in interstate commerce that is found to contain penicillin could be seized and the shipper prosecuted by the Federal Government, he

explained. State and local regulators will prosecute intrastate violators.

The new technique was developed by Bernard Arret and Amiel Kirshbaum of the antibiotics division. Their report will appear in the *Journal of Milk and Food Technology* (Oct.).

Penicillin finds its way into milk when the drug is infused into cows suffering from mastitis, an inflammation of the udder. Since farmers themselves can administer the drug to their animals, Federal labeling regulations warn that the milk from such treated animals should not be used for human consumption before three days after the last dose. Apparently, some have not complied with the regulations.

Furthermore, it has been found that many manufacturers of the drug preparation boosted the content of the dose to 1,500,000 units. Repeated doses of 25,000 units are considered adequate. Therefore, such highly potent doses increase the length of time required to eliminate the drug from a treated cow's milk. FDA has limited the dose to 100,000 units per dose.

Within the past few years there has been a considerable drop in the percentage of penicillin-containing milk samples, Dr. Welch pointed out. During 1954, 1955 and

1956, three surveys dipped into milk supplies from every state. At that time 6.9% of the samples proved to be adulterated with penicillin. A survey in the fall of 1958 and winter of 1959 revealed that this percentage has dropped to 3.7.

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GENETICS

Chromosome Linkage In Domestic Chickens

THE DEMONSTRATION of a chromosome "switch" in a rooster, reported in *Science* (Aug. 14), should help researchers solve some genetic problems.

Chickens are a popular animal for genetic studies, largely for economic reasons, says Dr. Earl H. Newcomer of the University of Connecticut. However, scientists have not known for sure until recently just how many chromosomes a chicken has. Now there is not only evidence that males have 12 chromosomes, and the females have 11, but new evidence for a reciprocal translocation, or exchange, involving the first and second chromosomes.

This finding means that it should be possible to show the association between a known linkage group and its respective chromosome, Dr. Newcomer explains.

A linkage group describes several genes that "go together." For example, when an individual shows the characteristics for gene P, he will also have the characteristic for gene L. The genes that form these groups are usually physically close to one another. By studying linkage groups scientists can "map" the chromosome for a species.

A white Leghorn male, 22 months old, was the source of the chromosomes studied. The bird was suspected of being a carrier of a translocation, caused by X-rays, because of the unusual hatching performance of its offspring. The offspring, when mated with normal birds, produced young showing both normal and "translocation behavior."

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ASTRONOMY

Amateur Discovers Two New Comets

See Front Cover

A BRITISH SCHOOL teacher and amateur astronomer has reported sighting two new comets.

Comet Alcock 1959f, as one is called (named after its discoverer, George Alcock), is the brightest comet seen in several years. It was first seen on Aug. 30.

The photograph on the cover of this week's SCIENCE NEWS LETTER is a ten-minute exposure of the comet, taken at the U. S. Naval Observatory, Flagstaff, Ariz., on Tuesday morning, Sept. 1. The short lines going across the picture are stars. They are trailed because the plate was moved during exposure to follow the comet's motion.

Comet 1959e, the other comet discovered by Mr. Alcock, is reported to be not as bright as Comet 1959f. It also lacks the tail observed on Comet 1959f.

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MEDICAL CENTER—A medical student relaxes on the lawn approaching the new Stanford Medical Center, dedicated on Sept. 17 and 18 at Palo Alto, Calif. The Center is designed so that related medical facilities are on the same floor level. For example, obstetrics, gynecology and pediatrics are on the third floor of the Palo Alto-Stanford Hospital within the Center. Provision has been made for expansion and changes in existing buildings.