



FATHERLESS—At the left is shown an official USDA picture of a 26-day embryo, offspring of a virgin hen. At the right, one of the virgin hens and a fatherless egg laid by her. Showing in the picture is the marking system and the padlock that insures the security of the virgin hens and makes sure that mated hens will not enter the cloistered area.

ORNITHOLOGY

Fatherless Turkey Eggs

Strictly guarded at Beltsville, Md., are a small flock of virgin white turkey hens who are laying parthenogenetic eggs. Every effort is being made to hatch a fatherless turkey.

► **SECURITY MEASURES**, like those taken to protect the nation's top secrets, were imposed at the U. S. Department of Agriculture's poultry section in Beltsville, Md., in an attempt to hatch and keep alive a fatherless turkey.

For a period of eight weeks, March 6 through May 10, Dr. M. W. Olsen, poultry husbandman at the Beltsville Agricultural Research Center, was solely responsible for the care of experimental virgin Beltsville small white turkey hens that naturally produce parthenogenetic eggs, eggs which have not been fertilized by a male.

The hen house and incubators were both kept under lock and key and Dr. Olsen was the only man who had access to the eggs. The eggs were each marked with an invisible ink and in code. The code could only be deciphered by Dr. Olsen.

These security measures were imposed after Dr. Olsen and S. J. Marsden, another poultry husbandman, hatched what may have been the first parthenogenetic turkey poul in the world. However, when the young fatherless turkey was born, the poultry experts were not positive that it was a fatherless poul, and they have not reported it as such officially. Mated hens are kept nearby, and it was feared one may have slipped into the virgin hens' nesting house.

To insure certainty in further experiments with virgin turkey hens, the security regulations went into effect.

At the end of the eight weeks period, the two poultrymen had gathered three eggs containing three fully developed fatherless

embryos. The embryos lived for a period of 26 to 27 days, which is the longest time for fatherless embryos to date. All attempts to hatch the eggs failed.

The poultry experts reported their findings in the journal *Science* (Oct. 1).

During the experiments with the virgin hens, a few were found to have produced no parthenogenetic eggs. The experimenters are now breeding these few individuals with male turkeys in the hope of getting a strain of turkeys that will produce eggs in which no parthenogenetic eggs are found.

The question of parthenogenetic eggs is of particular interest to hatcherymen, who have found a discouragingly large number of fertile-looking eggs that never hatch out.

The research center is continuing the experiments involving virgin hens and fatherless eggs in anticipation of being able to hatch and keep alive a young fatherless poul.

Science News Letter, October 23, 1954

CYTOLOGY

Speed-Up for Diagnosis Of Undulant Fever

► **THE TIME** needed for laboratory diagnosis of undulant fever, also called brucellosis, can be cut to a week or less, saving three to five weeks, thanks to a new culture medium developed by C. D. Kuzdas and E. V. Morse, bacteriologists at the University of Wisconsin.

Medium W (W for Wisconsin) is the

name of the new material on which brucellosis germs can be grown. Because it is selective for brucellosis germs, these can be seen easily without interference or obscuring by other microorganisms.

Previously, bits of infected tissue from diseased animals containing brucellosis organisms and contaminating bacteria were injected into guinea pigs. The guinea pigs were killed four to six weeks later, their spleen removed and cultured on media. The brucellosis bacteria were then isolated. This method was costly in time and money. It did not always work.

The new medium contains antibiotics and dyes to limit the growth of everything except the brucellosis germs.

Isolation of the brucellosis organisms from blood, urine or tissue now takes only a week or less and costs about 15 cents per plate of medium.

It is now being used both to verify cases of the disease in humans and for studies of animals infected with brucellosis germs. Researchers as far away as New Zealand and Tunis, Africa, are also finding it helpful.

Science News Letter, October 23, 1954

AGRICULTURE

New Alfalfa for Spring Resists Wilt and Cold

► A **NEW** certified alfalfa seed, Vernal, which has proven highly resistant to wilt and severe cold weather, will be available to farmers in quantity for the first time next spring.

At least 2,000,000 pounds of the Vernal alfalfa seed will be harvested this year.

The new alfalfa was developed at the Wisconsin Agricultural Experiment station in cooperation with the U. S. Department of Agriculture and is expected to have its greatest value as a forage crop in those northern states where both wilt and cold are serious problems.

Science News Letter, October 23, 1954

ELECTRONICS

TV Reception Unhurt By Power Shortage

► A **SHORTAGE** of electric power will not hurt radio or television reception, the American Institute of Electrical Engineers was told at their meeting in Chicago.

Richard Holgate, Philadelphia Electric Company engineer, said that a television set was operated an hour on 55-cycle power that was not up to the proper voltage. On transmission lines, a lagging frequency and low voltage are symptoms of a power shortage.

The tested TV set hummed slightly and there was a slight weave in the picture. The picture sides moved in one-eighth of an inch. But the set did not generate excess heat. Mr. Holgate said radio reception would not be hurt either when frequency and voltage are 10% low.

Science News Letter, October 23, 1954