BACTERIOLOGY

Babies Are Protected From Germs in Hospital Nurseries

Infants Are Kept Safe By Ultraviolet Curtains and Isolation; Animals and Plants Are Grown Germ-Free

PROTECTION for babies in maternity hospitals and infants' homes, from the germs they unwittingly give each other, was a leading topic in a two-day colloquium on newest progress in bacteriology at the University of Notre Dame.

Two principal systems to obtain this protection have been developed. In one, brought to its highest point by Prof. James A. Reyniers of Notre Dame, emphasis is placed on complete isolation of all babies, brought about by keeping each one in a tiny room or cubicle, kept as germ-free as all imaginable precautions will insure.

The other system, developed by Prof. William F. Wells of the University of Pennsylvania, depends on floods of ultraviolet radiation across doorways and other critical areas in the hospital, which massacre the germs as they float through the air. Both systems are now under full-scale practical test at a well-known home for babies.

Life Without Germs

Animals and plants brought into the world without the contamination of germs, which is the fate of all ordinary living things, and kept germ-free throughout their lives, have been produced in Prof. Reyniers' laboratory, and adaptations of his technique, as well as other methods, are now in use by a number of research workers.

In Prof. Reyniers' method, the young guinea pigs or other laboratory animals are born by Caesarian operation under completely aseptic conditions, within big tank-like cages where they are kept as long as necessary, receiving only sterile food, water and air. He has brought up guinea pigs, chickens and other animals from infancy to full growth, without their ever being invaded by a single discoverable germ.

Getting germ-free plants is usually a simpler job, Dr. Philip R. White of the Rockefeller Institute laboratories at Princeton, N. J., told his fellow-scientists.

Plants' internal tissues are usually naturally germ-free; it is a question simply of getting seeds out of a pod, or cutting tissues out of the inside of a stem or root, without their becoming contaminated. Many kinds of seeds have coats so resistant that they can be washed in effective antiseptic solutions without injuring the embryo plants which they contain.

Dr. White described the method by which he obtains germ-free cuttings of roots, which he grows in flasks of nutrient fluid, maintaining them indefinitely without connection with any stems. In such cultures of non-green plant tissues he has proved that a little iron is as necessary to them as it is to the chlorophyll-containing leaves and green shoots. One part of iron in 10,000,000 of solution makes all the difference between life and death to simple tissues.

Other uses of germ-free techniques were set forth by Dr. R. W. Glaser of the Rockefeller Institute, and by Dr. Oram Woolpert of Ohio State University.

Germs One by One

Also discussed at the colloquium were exceedingly delicate mechanical devices, which make it possible to insert a single germ, or a germ-size dose of a drug or virus, into a single living cell, to study results on this smallest of all experimental bases. Applications of these techniques have been made to many practical problems in diseased conditions of plant and animal cells, as well as to cells in normal states of life and growth.

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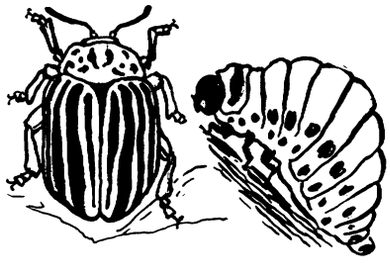
ENTOMOLOGY

NATURE RAMBLINGS by Frank Thone



Permanent Invasions

PESTILENCE, coming in war's train, has long been known and dreaded; St. John depicts it most dramatically as one of the Four Horsemen of the Apocalypse. To man's fields and gardens, no less than to man himself, war may bring plagues and pests. It has been so in the past, and may be expected to be so again in the future.

The War of 1914-18 took the potato beetle to Europe, where it had not been known before. Now it is a recognized menace to the food economy, especially of Germany. During the same war a devastating fungus disease appeared, no one knows whence, among the elms of the Netherlands, and has since crossed the Atlantic to threaten the elms of America.

Modern nations normally maintain careful quarantines, that are really quite successful in keeping out such undesirable immigrants. However, war-time pressure and hurry may cause temporary but costly relaxations and oversights —as in the case of the potato beetle already mentioned.

We have in this country numerous insect pests, both native and Asiatic, that have not yet reached Europe. Conspicuous examples are: boll weevil, chinch bug, Mexican bean beetle, Japanese beetle and tent caterpillar. Which of these will be the next to set unwelcome feet on European soil?

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Weather reports, important in military and naval strategy, are being withheld even by Formosa and Indo-China.

Giraffes were part of the war tribute paid to the Egyptian Pharaoh Tutankhamen by Nubians.