



Turtles Are Fun

► **TORTOISES** are good for something besides beating over-confident hares in footraces. They can teach many things to human beings, provided the latter bring to the lessons an open mind and a patience to match the deliberate methods of these crusty instructors.

A Washington woman, Mrs. Josephine Gibson Knowlton, one day years ago casually picked up a common box turtle (the kind with a hinge in the under-shell) and brought it home for a pet. That was the start of a fascinating hobby which she has followed for more than half a generation, and from which she has picked up so much interesting information not found in the books that she has finally wound up by writing a book herself. *My Turtles* has become one of the widely talked-about products of the present publishing season. (See SNL, July 3, p. 16.)

Once started on her career as a chelonologist (or is the right word chelonophile?) Mrs. Knowlton acquired turtles by dozens and scores. There were many species, a few from as far away as Australia and Africa; but for the most part she concentrated on two com-

mon kinds, box turtles and wood turtles. (Meticulous zoology would insist that these are tortoises, not turtles, since they are terrestrial, not aquatic; but why be fussy?) She has kept them in the pleasant garden behind her house in northwest Washington, which is arranged with special care for the comfort of its hard-shelled guests. Just now there are about 45 of them.

Her turtles know her voice, and come when she calls them. Some of them even recognize the approach of her husband, and meet him at the gate. One of them, a female named Virginia, casually gets up on her hind legs when she wants to increase her reach—a really astonishing feat, considering a turtle's build.

This Virginia, though one of the veterans of the flock, has not let the years detract from her charm. Two portraits of her by Charles Dana Gibson (who is Mrs. Knowlton's brother) adorn the book's jacket. They are probably the only pictures of a wide-waisted female that Mr. Gibson ever drew. But he does do justice to her dark and expressive eye.

Turtle society, as lived in Mrs. Knowlton's garden, is normally placid and amiable, unmarked by the bickerings that frequently arise among livelier animals. The economics of Turtledom seems to be non-competitive; at any rate, turtles do not fight over food, or nesting sites, or a place to dig in for the winter. They accept the companionship of strangers with equanimity; one made friends with a squirrel, another with a duck.

There seems to be just one dependable way to start a turtle fight: two males and one female. Which goes to show, perhaps, that turtles aren't as cold-blooded as formal zoological classification would make out.

Science News Letter, August 7, 1943

MYCOLOGY

Machine for Large-Scale Mold Cultivation Patented

► **GROWING MOLD** by the ton is the purpose of a mechanized setup on which U. S. patent 2,325,368 has been issued to Dr. Leo M. Christensen of the University of Nebraska. This does not mean that another good agricultural chemist has been driven daffy by the heat, nor yet that the Patent Office has followed him in his madness. On the contrary, this particular mold species has high value in our war industry, for it produces an enzyme that converts starch into fermentable sugar, which in turn is the source of alcohol for smokeless powder, synthetic rubber and a thousand other purposes. Incidentally, we got this mold from the Japs; it's the same one they use on rice in starting the making of saké.

The process starts with the flowing of bran from a big bin into a mingler that operates somewhat on the principle of a concrete mixer. Water containing necessary mineral salts is added, and the resulting mash is slowly carried on a conveyor belt through a steam sterilizer, then through a cooling chamber. After this, it falls into a second mingler, where billions of the mold spores are blown into it, then out again into pans on a second belt. This moves very slowly through a closed tunnel, kept well warmed, where the spores germinate and the mold grows into a practically solid white mat.

At the end of this line the mass is broken up into small fragments, and may also be dried. Then it is ready to be packed and shipped to the distilleries and industrial alcohol plants.

It is understood that Dr. Christensen's apparatus is not yet in commercial production, but is in the final stages of development at Lincoln.

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