



Defeating Winter

► LIVING things use a wide variety of means in defeating or evading the deadly blight of winter! Plants, in general, have the hardest time of it. Lower forms, being mostly aquatic, keep refuge in the water, as fish do, and stolidly stick it out. Water seldom freezes all the way to the bottom. Some of these pond inhabitants, at that, produce desistant spores in autumn, that fall to the bottom and lie dormant until spring.

Higher plants either trust the fate of coming generations to their seed and submit to being frozen to death, as the annual herbs do, or crouch beneath coverings of dead leaves and drifted snow, or even retreat into bulbs, rootstocks, etc., leaving no parts exposed above the surface. Trees, shrubs and woody vines either shed their leaves and stand as skeletons through the bitter season, or cling stubbornly to close-reefed evergreen foliage, and wrestle it out with the storms.

Animals, being motile for the most part, have a wider choice. Some, like short-lived insects, entrust the fate of the species to eggs or pupae, as annual plants do to seeds, and make no attempt to live through the winter. Others, notably birds, frankly run away, migrating southward in vast flocks as winter moves down the map, to return north with spring.

Many hibernate; and there are all degrees of hibernation. Some, like ground squirrels

and frogs, pass into a "deathseeming swoon," from which it is extremely difficult to arouse them without warming them up to springtime temperature. Others, like bears and some species of squirrels, sleep deeply or lightly, as particular environmental conditions dictate. Some bears go into their dens in autumn and are not seen again until spring. Others emerge during thaws and forage for a little extra food to supplement their stored fat. In the South, of course, bears do not hibernate at all.

Many animals, like hawks and owls, chickadees and nuthatches, the fox, wolf and weasel tribes, rabbits and quite a number of rodents, are able to find enough food to keep their life-fires going full blast all winter, especially since the majority of them are able to make or find warm shelter of some kind.

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Science News Letter, October 8, 1949

MEDICINE-CHEMISTRY

Find Fever Disease Aid

► CONQUEST of the hitherto incurable San Joaquin or valley fever prevalent in our southwestern desert areas was forecast by a report to the American Chemical Society meeting in Atlantic City, N. J., of a new antibiotic substance, called prodigiosin.

E. D. Botts and Arthur Lack of the Birmingham Veterans Administration Hospital, Van Nuys, Calif., reported that a dye extracted from the bacteria, *B. prodigiosus*, is effective against the organism causing this highly infectious disease, both in the living body and the test tube.

Coccidioidomycosis, as the disease is called, caused considerable trouble among troops in the Southwest for training during the war.

U. S. Bureau of Dairy Industry chemist, reported in accepting the \$1,000 Borden Award for his quarter-century researches on improvement of quality of powdered milk.

Flavor of Foods

Pleasantness of flavor of foods is not just a matter of sweetness or mildness or even use of flavor factors that are pleasant in themselves, E. C. Crocker of Arthur D. Little, Inc., Cambridge, Mass., told the chemists. Raw onion and garlic in a salad, rancidity or moldiness in cheese, lemon juice, vinegar, and even mustard, pepper and other spices that pain the mouth, all are pleasant flavors.

The most familiar flavor is usually the most popular, he said, telling of one experiment with beer that showed that a person is most likely to choose in an unlabeled bottle test the kind of beer that he has been using consistently for the past two weeks.

Plastic Prevents Corrosion

Plastic raincoats can now be used to protect concrete structures and both concrete and steel pipe from corrosion by acid water, Charles M. Bodach and J. F. Wilkes of Dearborn Chemical Co., Chicago, reported. The protective coating is a vinyl resin and it is saving from destruction cement-asbestos pipes and concrete water tanks that came into use during war time steel shortages.

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Plastic Starches Fabrics

A new plastic that will permanently "starch" or size fabrics and add strength to paper when wet was reported by a DuPont chemist. The new synthetic resin is what is called a polymer containing free aldehyde groups and it is similar to polyvinyl acetate in its properties.

E. F. Izard of Dupont's rayon department at Buffalo, N. Y., explained that the aldehyde-modified polyvinyl alcohol produced is soluble in water, but when films are cast from it and heated, it becomes insoluble in water. Thus ironing fabrics to which the new resin is applied makes the sizing or "starching" permanent as well as pleasing in appearance. It can also be used to anchor pigments and other substances to paper or fabrics.

"Sunlight" Flavored Milk

That pleasant "sunlight" flavor of milk is caused by the action of light on the butterfat in the milk, but it is really a mild rancidity, Dr. George R. Greenbank,

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