PHYSIOLOGY

Chilled Eggs Hatched

➤ CHICKEN and turkey eggs will hatch, and fertilized mammalian ova will develop into normal embryos, even if they are chilled to near-freezing temperatures for a time. This has been demonstrated in two series of experiments, one on chicken and turkey eggs conducted at the University of Maryland, the other on rabbit ova at the laboratories of the Worcester Foundation for Experimental Biology, Shrewsbury, Mass.

In the Maryland experiments, which were conducted by Prof. Morley A. Jull, Morley G. McCartney and Hussein M. El-Ibiary, eggs were held at temperatures ranging from 30.2 degrees to 53.6 degrees Fahrenheit for periods from 15 minutes to 16 hours. Most of the eggs were kept at the lower temperature, as measured by thermometers thrust into the centers of three eggs in each experimental group. Outside temperatures went as low as one degree below zero Fahrenheit.

After their chilling, the eggs were put into incubators, and careful records kept of the percentage of successful hatchings. Hatchability of eggs that were not chilled, used as controls, ranged between approximately 75% and 90%. Some of the chilled eggs, especially those that were exposed to the cold for the shortest periods, scored practically as high. One lot, chilled at 30.2 degrees for four hours, beat the score of the best of the unchilled controls, with a hatch of 91.6%. Lowest score was turned in by the eggs that were chilled longest—only 17.9% of those kept at 30.2 degrees for 16 hours hatched.

In the Worcester Foundation experiments, carried out by Dr. Min-Chueh Chang, fertilized rabbit ova were removed from their mothers' bodies, chilled at freezing-point and at 50 degrees Fahrenheit for periods of from one to four days, then implanted into the bodies of other female rabbits and permitted to go through part of their embryonic development.

As with the chicken and turkey eggs, the longer the period of chilling the lower in general was the percentage of survival. However, even the ova that were kept cold longest were able in at least a small percentage of cases to continue development.

The Maryland experiments are reported in detail in the professional journal, *Poultry Science* (March); the Worcester research is described in a letter to the editor of the British journal, *Nature* (June 19).

Science News Letter, July 3, 1948

CHEMISTRY

Purification of Water

➤ A NEW method of purifying water and removing both acid and alkali chemicals in the same treatment was demonstrated at the laboratory of the Resinous Products and Chemical Co., Bridesburg, Pa.

Using synthetic resins, which swap harmless portions of another substance for the unwanted impurities in the water, the process is called "ion exchange." The new development consists of perfecting resins that will perform this exchange over the whole range of acidity and alkalinity.

Resins now in use will take out an acid-forming portion of a chemical and then another treatment using another resin is needed to remove the metallic side of the chemical impurity. For example, to get rid of calcium sulfate or carbonate (the stuff that makes the bathtub ring in hard water areas), it was first necessary to remove the calcium by exchanging it for sodium or something else not objectionable and then to run the water through an exchanging tower in which another synthetic resin will bring about substitution for the acid-forming sulfate or carbonate portion.

Now the research chemists have succeeded in putting into the same tower or column a mixture of resins that do not interfere, with one of them handling anions (acid-formers) and another handling cations (metallic). Thus impurities that can be removed from water by ion exchange will be taken care of in a single passage through a single bed of exchange resins.

After use the resins, called Amberlites, can be separated, regenerated and then remixed for repeated use.

One of the new resins is an anion exchanger which will remove completely such weak acids as silicic, boric, carbonic, hydrosulfuric and carbolic.

The extension of ion exchange over the whole range, as the chemist terms the change in acidity and alkalinity, promises to open up hundreds of applications hitherto considered impractical.

A process called reverse de-ionization, which consists of the removal of anions before cations, has also been developed with the expectation that there will be important industrial applications.

Science News Letter, July 3, 1948

ANTHROPOLOGY

Expedition Wary of Tribe Of Reformed Cannibals

➤ "YUM-YUMS of Wow" is what the name sounds like. Might be a title for a show, with nice music and even nicer visual effects.

But spelled out correctly the name is Niam-Niams of Wau. Wau is in the southwestern Sudan, in eastern Africa, a long distance from either Broadway or Hollywood. The Niam-Niams are a very black but very hospitable tribe—whose hospitality nobody is particularly anxious to accept.

Members of the University of California African Expedition were in one of their towns lately but they didn't care to stay there over night.

The Niam-Niams of Wau, you see, used to be cannibals. They've reformed now (maybe). But they have an uncomfortable trick, when they meet a visitor, of gently feeling his arm and remarking how nice he'd be—in a pot. And nobody can be sure that they're really kidding.

The native cook attached to the expedition was given quarters in the Niam-Niam village while the rest of the party set up their tents a short distance away. At nightfall the cook reappeared, firmly declaring he wouldn't stay in that town after dark. He wanted no part of Niam-Niam cuisine—and still less did he want to become part of it.

The British district commissioner, Basil Duke, related how once, when he was hiring workmen for a job he needed to get done, he found one husky young man alone in a village, taking it easy. When the commissioner asked him why he wasn't on the job, the young Niam-Niam calmly replied, "Oh, you see, I'm taking some time off. I'm to be eaten next week!"

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