

AGRICULTURE

Carrots Keep Better Using High Humidity

► FRESH CARROTS can be kept for as long as nine months without losing their crispness and without much decay, by storing the vegetables at very low temperatures and high humidity.

In tests conducted by the Canadian National Research Council, in Ottawa, a "jacketed" storage room was used, in which cooling air was circulated through a jacket or space between the walls of the room, rather than through the storage area itself.

Only heat produced by the vegetables is removed by the airflow. Care is taken that moisture is retained.

Results of the research contradict the widespread belief that high humidity causes excessive decay of fresh vegetables during storage.

Carrots were shown to be storable at temperatures from 32 to 34 degrees F. for much longer periods, than is now done commercially, by maintaining humidity as close to saturation as possible. The researchers established that carrots retain their quality with less weight loss and without increased decay if stored at 98% to 100% humidity.

Using the jacketed, double-wall storage room to maintain high humidity, decay losses totaled 15% after nine months at the high level humidity as against 25% at the lower level.

Storage tests involving green and red cabbage have also been initiated, and results so far indicate that these vegetables can be stored at the same temperature and humidity as the carrots for about five months with generally negligible trimming losses. After eight months storage, trimming losses ranged from 15% to 30%.

The tests have been carried out over three storage seasons and in the case of celery, storage life has been increased by 50% using the high humidity method. Applied to apples, the results were equally impressive, and apples harvested in September were as crisp and tasty the following July as when they were picked.

The cost of adding the jacket to existing storage facilities, is reported to be only about 15% greater than the cost of building conventional storage chambers.

• Science News Letter, 89:63 January 22, 1966

TECHNOLOGY

Method to Desalt Water Uses Minerals, Gravity

► A NEW METHOD for taking salt out of sea water to make it drinkable was revealed in San Bernardino, Calif.

No external power is needed to run the process, which operates continuously on the energy of the reacting materials. These materials are the saline chemicals dissolved and suspended in ocean water and two metallic minerals.

The electrochemical reactions between these create a kind of "miniature snow-storm" within the portable unit. This heavier material settles toward the bottom of the tank by gravity, so that potable water can be removed from the top.

The "snow" is actually what chemists call "floc." The floc acts like a minute sponge to soak up the unwanted chemicals in salty water.

The unit, called "Survivor," produces sufficient desalted water every 24 hours to sustain two to four persons adequately. It is designed to be carried in small boats and weighs only 15 pounds empty. It is two feet tall and 10 inches square.

Enough electrical energy is produced as a by-product to operate a small emergency radio transmitter, a transistor radio or similar solid-state device. Survivor was developed by General Marine Technology Corporation in San Bernardino. Albert H. Aul, president of the company, has patents pending for his "Aul desalination process."

GMTC officials state that it is possible to produce desalinated water for as little as three cents per thousand gallons.

The company has also developed a buoy that uses the same chemical reaction. In this case, however, the electricity is the main product and the water the by-product. The new power pack does not have to be replaced every three months or so as is necessary on today's buoys. The desalted water can be stored for emergency use by sea-going vessels.

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Nature Note

Shy Velvet Worm

► SO SHY AND RETIRING that only a few patient naturalists have discovered the species, the mysterious velvet worm creeps around humid tropical forests on more than 48 stubby legs.

The worm is called velvet because its skin is covered with thousands of minute papillae or tiny bumps like the bumps on your tongue. From a distance, the skin appears soft and velvety.

The caterpillar-like creature, two or three inches long, manipulates its two dozen pairs of legs in a remarkable manner. Each leg ends in a flexible knob armed with a tiny pair of claws that briefly latch on to some support as the animal skims over the ground.

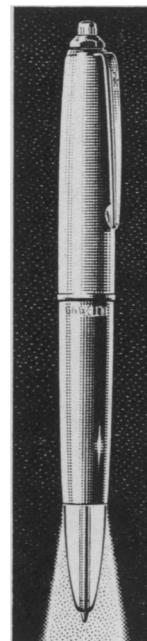
Even though the creature somewhat resembles a slug or a millipede or centipede, it is in a different class and is called a *Peripatus*, meaning walking worm, in the phylum Arthropoda.

A velvet worm has a pair of projections on its head which curl back, unlike the tentacles of a land snail or slug that retract inside the head like an inverted glove finger.

Scientists estimate that creatures with the body form of the velvet worms have been walking the earth for at least 500 million years, and may well have been among the earliest animals to creep over the land.

Velvet worms have a remarkable method of defense. When threatened, they spit a blob of sticky secretion resembling clear rubber cement. Within seconds, the liquid becomes opaque, white and fairly firm. Directed with a good aiming sense, this salivary cement usually subdues the enemy insect.

• Science News Letter, 89:63 January 22, 1966



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