

natural sciences notes

NUTRITION

More colorful carrots, beets

Housewives with an eye for color and nutrition may soon be serving up redder beets and oranger carrots that are richer in vitamin C.

In a carrot development program at the horticulture department of the University of Wisconsin, carrots from all over the world were tested for color, shape and yield. These included red carrots from Japan and yellow-orange mixtures from the Middle East. The orange color indicates the presence of carotene or vitamin C. Hybrids were created that have up to 200 parts per million of carotene—two to three times as much as today's varieties.

A new hybrid beet called the Pacemaker has a deeper color, higher sugar content and better taste.

CONSERVATION

Blue whale newly protected

Blue whales, the world's largest mammals, cannot be killed legally in the North Atlantic Ocean before 1970, according to new regulations of the International Whaling Commission. Humpback whales cannot be hunted before 1969 except for a worldwide limit of 10 from Greenland waters. Neither blue nor humpback whales may be killed in the North Pacific before 1971.

Whalers killed so many of the animals in the 19th century that several species were close to extinction. In 1931 the League of Nations set international whaling controls. The Whaling Commission meets every year to assess whale resources and help protect the huge sea mammals. The International Convention for the Regulation of Whaling is supported by the United States and 15 other nations—Argentina, Australia, Canada, Denmark, France, Iceland, Japan, Mexico, The Netherlands, New Zealand, Norway, Panama, the U.S.S.R., the United Kingdom and the Union of South Africa.

Today four whale species—gray, right, blue and humpback—are almost completely protected.

TROPICAL AGRICULTURE

New theory in farming rain forests

Studies of the relationship of fungi to tropical plants may revolutionize methods of growing crops in the cleared rain forest areas.

In the rain forests, minerals vital for plant growth move in a somewhat closed cycle, report Drs. Frits Went and Nellie Stark of the Desert Research Institute Laboratory of Desert Biology, University of Nevada. Mineral foods travel from the roots of the plants up to leaves, branches and fruit which eventually drop to the ground. Here hyphae or threadlike filaments of fungi release the minerals and convey them back to the roots.

This process of mycorrhiza—symbiotic relationship between certain fungi and plant roots—is an important phenomenon in rain forests where the humus layer may be surprisingly thin and the poor soil serves only as an anchor for plants, source of water and reservoir for bound minerals. Current attempts to burn out forest areas in the Amazon and other South American areas and introduce agriculture have failed, the scientists report, because they failed to take this system into account.

ECOLOGY

Multi-faceted project for Volta Lake

One of the largest man-made lakes in the world, Volta Lake near Akosombo, Volta, will be target for a many-sided research project designed to facilitate resettlement of 80,000 displaced people.

The \$1.3 million project, due to start this spring and last three years, will help determine agricultural techniques suitable for lake margins. It will investigate public health problems arising from the ecological changes that occurred when waters behind the dam covered 3,275 square miles. The abundance and distribution of different types of lake fish will also be studied.

The research program is backed by the Ghana Government, the United Nations Development Program and the Food and Agriculture Organization.

FORESTRY

Bomb throwers to clear forests

A new system to burn out dangerous forest debris from a safe distance has been devised by United Aircraft Corp. for the U.S. Forest Service.

A rifle-like launcher that can be carried and fired from the shoulder shoots a self-propelled incendiary bomb 1,500 feet. The projectile bursts and ignites on impact, clearing out debris and dense undergrowth. This system will implement standard burning practice of foresters to reduce fire hazards and facilitate reforestation. At present much of this firing is accomplished by men with torches—a hazardous method.

WATER POLLUTION

High cost for treating waterways

The United States may have to pay some \$29 billion over a period of five years in order to collect and treat city and industrial waste materials being dumped into the nation's waterways.

The estimated cost, based on studies of the Interior Department's Federal Water Pollution Control Administration, includes construction of new waste treatment plants, sanitary sewers and facilities to control thermal pollution. The costs do not include expenditures on acid mine drainage, oil and radioactive waste discharges, and sediments washed into rivers and lakes.

CONSERVATION

Protecting the richest fishing bed

New England fishermen are seeking protection against current oil exploration on Georges Bank, site of the world's richest fishing ground.

The Georges Bank area produces 40 percent of the fish eaten in the United States and 12 percent of the world's fish supply, according to the National Wildlife Federation. An accident on an offshore oil field, such as the oil well blowout at Cook Inlet, Alaska, which discharged oil floods for more than a year, would ruin the fishing industries as well as pollute the coast and beaches from Maine to New Jersey.

The New England Fisheries and Conservation Committee has asked New England governors to support a bill in Congress to protect the fishing ground.

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