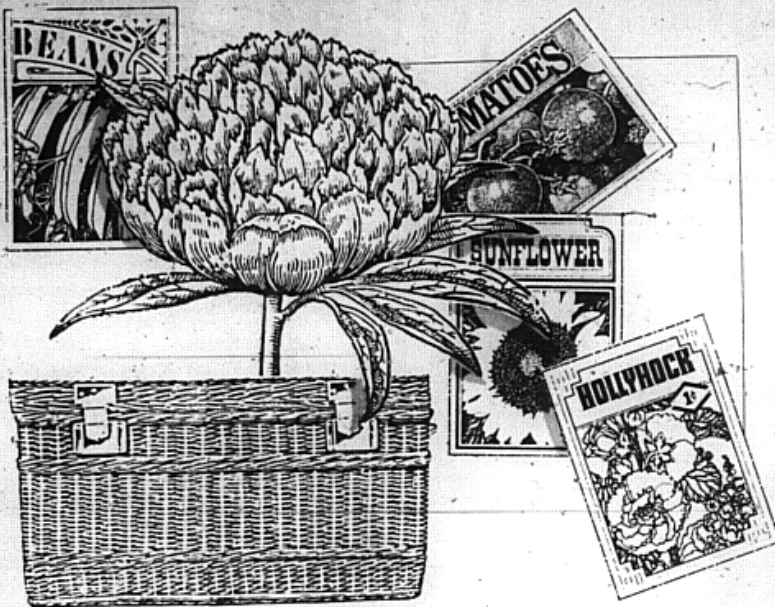


Home/Garden



Seeds found in wreck of Spanish galleon now reportedly sprouting

By PHILIP J. HILTS
The Washington Post

Several 365-year-old seeds that sank with the Spanish treasure galleon Atocha have been brought to the surface and have sprouted, according to an archeologist working on the wreck.

It is an "extremely unusual occurrence for seeds that old to sprout and almost unheard of for seeds to be brought out of the sea and still sprout," said Dr. David Hall of the University of Florida.

Apparently the seeds — of a variety of weed — were preserved under dried, caked-on mud that was packed under four heavy planks of the hull of the wreck.

Corey Malcom, an archeologist working on contract with the Mel Fisher Maritime Heritage Society on the wreck, said that he recovered grape seeds, olive and apricot pits, and many other unidentified seeds from the wreck, which lay under 55 feet of water in the Caribbean near Key West, Fla.

Malcom said that when he sifted the seeds out of the mud and put them in fresh water, one of them sprouted. Eventually four of the seeds sprouted.

He planted all four sprouts. Two of them are still living. They have been tentatively identified as plants of a variety of weed called beggar's tick, or *Bidens Alba*. The weed

is very common in the Caribbean. Florida's Hall made the preliminary identification from photographs, but said he won't be certain until the tiny leaves on the two-inch seedlings grow out and the plants flower.

There have been other reports of seeds sprouting after hundreds or even thousands of years, said Dr. Raymond B. Taylorson, a plant physiologist at the Department of Agriculture's Beltsville, Md., research station.

Seeds commonly survive for five to 10 years under the right conditions, he said. Some with exceptionally tough outer shells can survive much longer than that.

Seeds of water lotus plants have germinated after more than a thousand years of burial in the mud, he said. A Canadian researcher has reported that he found seeds of the Arctic flower *Lupinus arcticus* that sprouted and grew healthy plants after about 10,000 years of preservation in frozen silt.

But Taylorson said scientists would have to investigate thoroughly the germination of the seeds from the Spanish galleon to verify the report. It is rare for seeds to sprout after being immersed in salt water, which kills seeds that don't have exceptionally water-tight coats.

The Atocha sank in a hurricane 35 miles from Key West in 1622, and its treasure — more than \$130 million in gold, silver and emeralds — was recovered in 1985 by treasure-hunter Mel Fisher and his salvage team.

Heirloom plants maintain history

Jefferson's gardens at Monticello back in bloom again

As we celebrate the Fourth of July and the bicentennial of our Constitution, I can't help thinking of Thomas Jefferson. He was not only the author of our Declaration of Independence and our third president (who later died on July 4, 1826) he was a great gardener and plant collector.

Jefferson's gardens at Monticello have been excavated, and replanted with seeds of vegetable and plant varieties that he would have used. Two organizations that specialize in preserving heirloom plant varieties, the North American Fruit Explorers (10 S. 065 Madison St., Hinsdale, IL 60521) and the Seed Savers Exchange (P.O. Box 70, Decorah, IA 52101) have worked with the Monticello staff to recreate these gardens as accurately as possible.

As there are people who wonder about the relevance of our Constitution in our modern world, so there are those who wonder whether there is any value in heirloom plants.

Hybridizers give us bigger, better, more disease-resistant plants all the time, so who needs the old unimproved varieties? Well, the hybridizers need them. They need to maintain as large and diverse a gene pool as possible to dip into, as they cross and re-cross countless open-pollinated varieties to come up with a good hybrid. In order to create new varieties that are resistant to changing diseases and stresses, hybridizers are always dipping into the gene pool of old varieties.

The difference between open-pollinated plants and hybrids is that only open-pollinated varieties reproduce true to seed. If you plant the Alaska pea as Jefferson did, you will get more Alaska peas. If you plant the seeds you collect from your Celebrity tomato, you may get a very strange plant indeed.

But even backyard gardeners need heirloom seeds.

Because so much of our food is produced commercially, the hybridizers concentrate on creating vegetable and fruit varieties that mature at the

Pat Leuchman

Between The Rows



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same time to make mechanized harvesting easier. Commercial growers also want produce that is tough enough to withstand handling and shipping. Sometimes, flavor and texture are sacrificed to these commercial needs.

The old varieties are not necessarily less desirable; they may be more flavorful, tender and juicy, but more difficult for a commercial grower to harvest and handle.

In New England we have two seed companies that offer a good selection of heirloom and open-pollinated varieties. The Vermont Bean Seed Company (Garden Lane, Fairhaven, VT 05743) used to specialize in beans like the Christmas Lima, Wren's Egg, Soldier and Jacobs Cattle bean, but their catalog now offers all of these, plus a full range of other vegetables, herbs and flowers. Johnny's Selected Seeds (Foss Hill Road, Albion ME 04910) offers heirloom beans, Jefferson's Alaska pea and open-pollinated vegetables like Yellow Crookneck summer squash, Blue Hubbard winter squash and Oakleaf lettuce.

Information on heirloom seeds
Rob Johnston, Jr., the president of

Johnny's Selected Seeds has written a booklet, *Growing Garden Seeds* (\$2.50) that gives full directions for growing plants for seed, including how to harvest, clean and save the seed.

The Seed Savers Exchange publishes a *Garden Seed Inventory*, a catalog of catalogs. This volume lists 239 American and Canadian seed catalogs and the nearly 6,000 open-pollinated seed varieties they carry including full descriptions and cultural requirements of each plant. A softcover edition is available for \$12.50.

Write to The Seed Savers Exchange to see how you can participate in their work by adopting an heirloom plant or two, keeping it under cultivation and distributing the seed to other interested gardeners.

Seeds must be grown or, even when kept under the most ideal conditions as they are at the National Seed Storage Laboratory in Fort Collins, Colorado, they will lose their viability.

Some would be interesting to grow just because of their names. I love the idea of the Moon and Stars watermelon and the Mortgage-Lifter tomato. You can help to maintain the genetic diversity of our food crops, a vital task, while you have some fun and enjoy some good eating.

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Garden calendar

This information is provided by the Franklin County Cooperative Extension Service. Now is the time to:

- plan to renew or renovate your strawberry patch within two weeks after the last berries are picked for the season. To renovate, remove the older mulch and mow over the tops of the plants. Be sure to set your mower high enough to avoid injury to the crowns. The next step is to hoe the beds to remove extra plants, weak plants and weeds. Cultivate between the rows narrowing the rows to 12 to 18 inches wide. If leaf spot has been a problem, apply an appropriate fungicide at this time. Contact Franklin County Cooperative Extension for the fact sheet, "Growing Strawberries."

- remove dead flowers from annuals to keep them blooming and pinch petunias to encourage bushy growth.

- Japanese beetles are one of the most destructive garden pests which feed on over 250 different kinds of plants. There is no way to completely eradicate Japanese beetles but the following tips may help to protect valuable plantings from their damage. Spray or dust susceptible plants regularly during July and August with appropriate insecticides. Be sure to read and follow label directions. Remove old flowers, bruised and over ripened fruit to make plants less attractive to beetles. Set Japanese beetle traps at least 10 feet away from plants you are trying to protect, otherwise the beetles may track on their way to the traps.

- avoid spraying insecticides in the

heat of the day or when temperatures are above 85 degrees F. Sensitive growth may be injured.

- Spruce, arborvitae, hemlock,

juniper and pines show needle injury as browning or yellowing of the needles. There may also be webbing between the needles.

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