

from abroad

MEXICO

Contraceptive plant

The roots and leaves of a group of Mexican plants called barbascos have been ground up and used to stun fish for centuries by Indians. Certain of these Indians also used barbasco tea as a natural contraceptive.

Nobody took much notice of barbasco tea until after the introduction of the contraceptive pill. Then someone discovered the brew really worked, and scientists set to find out the active ingredient. Now barbasco is used commercially as a source of substances that can be converted into steroid hormones, and the Mexican Government, in a move to protect its pharmaceutical industry, has banned export of all barbasco in the raw state.

Barbasco is a popular term that describes a group of unrelated plants, principally the *Dioscoreae* or wild yams.

The *Dioscoreae* are a prime source of diosgenin, a precursor of progesterone which is used in the pill. Attempts to produce the plant under domestication have not fared well; diosgenin yields have dropped sharply with cultivation.

It is believed that under-the-table export of barbasco root has been quite extensive. The Government fears that uncontrolled raids on wild populations of the plant will result in much reduced distribution and yield of the tubers. It is in accord with general policy to export the finished hormone rather than the raw material. In light of these two points the Government has decreed that no raw barbasco shall be exported.

Meanwhile Government agronomists are continuing experiments with cultivation in the areas in which the roots grow wild, in the hope that diosgenin yields can be kept high in the plants' natural environment.

Emil Zubryn

THE NETHERLANDS

Plastic houses on trial

Two heavily plasticized houses designed by the Royal Dutch-Shell Group at Delft in the Netherlands are being put to intensive tests.

One is being lived in and the tenant is making periodic reports; the other is in use by the laboratory for tests on sound and heat insulation as well as general acceptability.

The houses are built around a steel frame with exterior sandwich wall panels made from asbestos cement with a urethane core, finished with a colored

sand incorporating an epoxy adhesive.

A high proportion of synthetic materials goes into the rest of the structure. Plastics and resins are used for insulation, floor coverings, pipes and protective finishes.

Only the service areas—kitchen and bathroom—are fixed on the ground plan. The rest of the layout can be altered at will. The same exterior and internal wall elements are to be used in the construction of a new multi-story laboratory at Delft.

ENGLAND

Uranium from the sea

Britain may now have a process for extracting uranium from the sea at a cost comparable with that foreseen for processing low-grade ores.

Engineering studies based on the fact that titanium hydroxide selectively absorbs uranium forecast extraction of the metal at a cost of \$60,000 to \$100,000 a ton.

This indicates a price of \$20 per pound of uranium oxide, somewhat dearer than the estimates for \$12 to \$15 per pound for oxide from Swedish alum, but considerably more attractive than the granite ores (\$50 to \$100) the U.S. is beginning to explore.

As N. J. Keen of the Atomic Energy Research Establishment outlines the project, it would require a very large plant, so sited that a natural current superimposed on the tide would keep fresh water flowing in and quickly remove the depleted water.

Because of its size and cost, the plant would need to run continuously, says Keen, but at the same time would need to be built from relatively cheap materials like concrete, wood and plastics.

Sea water contains 3.34 millionths of a gram of uranium per liter. After its absorption on granules of hydrous titanium oxide, it is leached by a solution of ammonium carbonate.

Engineers have tested the process on a laboratory scale, in beds one foot in diameter. It is now to be scaled up to a bed about six feet square, Keen says, that will extract about 10 grams of uranium in the course of an eight-day cycle.

AERE is now spending around \$160,000 a year on this project and has brought the process from one that was hopelessly uncompetitive to a point where it has the attention of mining interests.

"It's too much to say it has arrived," cautions Dr. Walter Marshall, who has just taken over as director of the AERE. "Though it has gone very well—much more successfully than we ever dreamed—we don't yet know whether we have pushed it to its limit."

F. C. Livingstone

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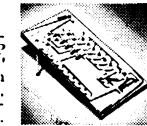
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