

BOTANY

May Grow Loofa Sponge

Needed in American warships as engine filters, the Japanese-grown "dish-rag" gourd may be cultivated in America.

➤ JAPANESE-GROWN loofa sponges are no longer available, but they are needed in American warships to help lick the Japs. They are used as filters in certain types of marine engines installed in fighting boats, transports and cargo vessels by the Navy, Coast Guard and Maritime Commission. They can be grown in America, and America can become independent of the Japanese supply.

Loofa sponge is the closely entangled fibrous mass in the inside of the loofa gourd. It is an effective filter to separate out oil and grease in boiler-feed water without absorbing the water. Marine sponges do absorb the water and cannot be used as filters in these engines.

Loofa sponge, luffa sponge, dish-rag gourd sponge, or wild cucumber sponge, whichever name you want to use, is not a true sponge of the familiar marine variety but it is used for many of the same purposes. It grows both wild and cultivated in Japan, China, India and in certain islands in the Far East. A wild variety, that grows in the West Indies and Central America, is satis-

factory for making the sponges. A cultivated crop could be raised each year and America assured independence of the Asiatic supply, most of which came from Japan in pre-war days.

The gourds are ready for harvesting six months after planting. They are some 20 inches long, and hang from the vines which grow on trellises to permit regularity of shape and freedom from ground fungus. One end is cut off and the gourd soaked in water for five or six days. The tough fibrous center is then easily removed, washed, dried and packed for shipment.

Japanese use loofa sponges for the bath, but they are a little too rough for the American lady. The Japs also use them to clean their shoes, and for making toys, matings, sandals and hats. They extract a clear liquid from the stem which is used for medicinal purposes and in skin lotions. Sometimes they eat the pulp, but the food value is questionable, and dish-rag gourd soup is not apt to replace good American okra soup on the American table.

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PHYSICS

Gales to Test Planes

Synthetic winds up to 600 miles an hour and temperatures down to 67 degrees below zero to be available in new tunnel at Wright Field.

➤ MANUFACTURED gales with velocities up to 600 miles an hour and controlled temperatures down to 67 degrees below zero Fahrenheit are expected in a new aircraft testing tunnel to be built soon at Wright Field, it was announced in York, Pa., by the engineer in charge of the construction of the cooling system to be used. The giant air conditioning plant is being assembled under the direction of J. G. Bergdoll, Jr., chief engineer of the York Ice Machinery Corporation. It will produce four million cubic feet of refrigerated air a minute, he stated.

"A man in ordinary winter clothing

could survive only a few minutes if he were placed directly in the path of the refrigerated air stream," he explained. "Even if his body could withstand the 600-mile force of the gale, he would be frozen stiff in a few minutes."

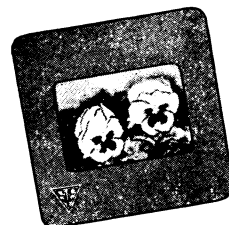
The tunnel will be shaped like the letter "O" and will be 600 feet long. The gale will be made by a 40,000 horsepower motor. The rapidly moving air will pass through cooling coils in which are circulated tons of a calcium chloride solution chilled to 40 degrees below zero by two giant refrigeration machines. These cool the air to seven degrees below zero.

In making a stratosphere test, models will be placed in a steel compartment in the throat of the tunnel, an airtight door closed, and air pumped out, lowering the pressure to simulate atmospheric conditions at various altitudes. It will be lowered from the normal sea level pressure of 14.7 pounds per square inch to less than 2.7 pounds, to simulate pressures found at altitudes of above 40,000 feet.

"In the new wind tunnel, temperature of the air stream drops naturally from seven degrees below to 67 degrees below zero as the tunnel narrows down from its widest part in the center to the smallest opening at the throat. This narrowing has the effect of transforming static into velocity pressure," Mr. Bergdoll stated. "It actually lowers the pressure while the speed of the gale is increased, resulting in a terrific temperature drop without the need for additional refrigeration equipment."

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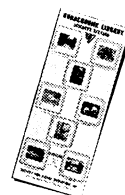
A new helium gas plant is now in operation in Texas; this, with four additional plants not yet completed, will bring the 1943 production of this lightweight noninflammable gas to 40 times the prewar production.



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