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ASTRONAUTS' HOUSE FOR MOON DESIGNED

DENVER (UPI) — The first astronauts on the moon will have to survive on an otherwise lifeless sphere, airless, cruelly hot half the time and deadly cold the other half. But the means of doing it are well advanced.

The Martin Company, which builds the Titan intercontinental missile, already has designed a lunar house in which five men could live indefinitely.

A garden will take up about one-third of the spherical lunar house designed under the direction of Dr. James G. Gaurne, chief of space medicine at Martin's Denver division.

Hydroponic tanks, in which chemicals substitute for soil nutrients, will grow algae and food plants.

The algae will give off enough oxygen to maintain a breathable atmosphere in the forty-foot insulated ball, divided into four levels. There will be enough edible greens and fruit to break the monotony of a basic protein diet.

The hydroponic tanks will take up the entire top level and part of the third floor. Animals will live in cages, fattening on forage plants, providing fertilizer for the plants and, with the men, exhaling carbon dioxide. The plants utilize carbon dioxide, and in turn "exhale" vital oxygen.

The second floor will provide sleeping, work and dining space. Machinery and power equipment will be on the first floor above the entry-escape hatch.

Martin already has working models of the components for the "closed ecology" lunar house in operation.