GREENS for the GREAT WHITE SOUTH?

ALL the informed, from Popeye the sailorman down to that old cabbage Mrs. Wiggs, agree that one must have greens in one's vittles, and variety of diet has always been as much a preoccupation of explorers as of gourmets. On Everest in 1933 the late Frank Smythe dreamt of sauerkraut; on Cho Oyu in '52 Sir Edmund Hillary's longings were for pineapple cubes; and a year later on Everest the thoughts of the expedition members turned wistfully to green vegetables.

In a talk, *South Pole Salad*, scheduled for broadcast from main National stations this Sunday (August 5) at 8.45 p.m., Dr. T. M. Morrison, of the D.S.I.R. Soil Bureau Experimental Station, will tell of the research done at the request of the Ross Sea Committee into the problem of vegetable growing in the Antarctic.

The problem was a complex one. Besides the paramount factors of heat and light, other considerations were what to grow and what to grow it in, and what would yield best in the smallest space. The choice of a green fell on cress (garden cress, not the better-known water cress), the reason being that this plant has a very rapid growing period, germinating from seed in three days. It is also graced with a pungent and attractive flavour; which would naturally commend it to the temperamental taste buds of the Southern team.

To discover what minimum temperatures were to be maintained to grow cress a machine called a miniature phytotron was used. This is simply a controlled cabinet that can artificially duplicate any environment in which plants are to be grown. It was found that at a temperature lower than 45 degrees Fahrenheit, cress wouldn't grow, but it was considered that with some extra heating for the glasshouse in the sunny spring and summer months the project would be feasible. Winter was ruled out because of the fuel required for heating and light: fuel being of particular concern in any polar expedition.

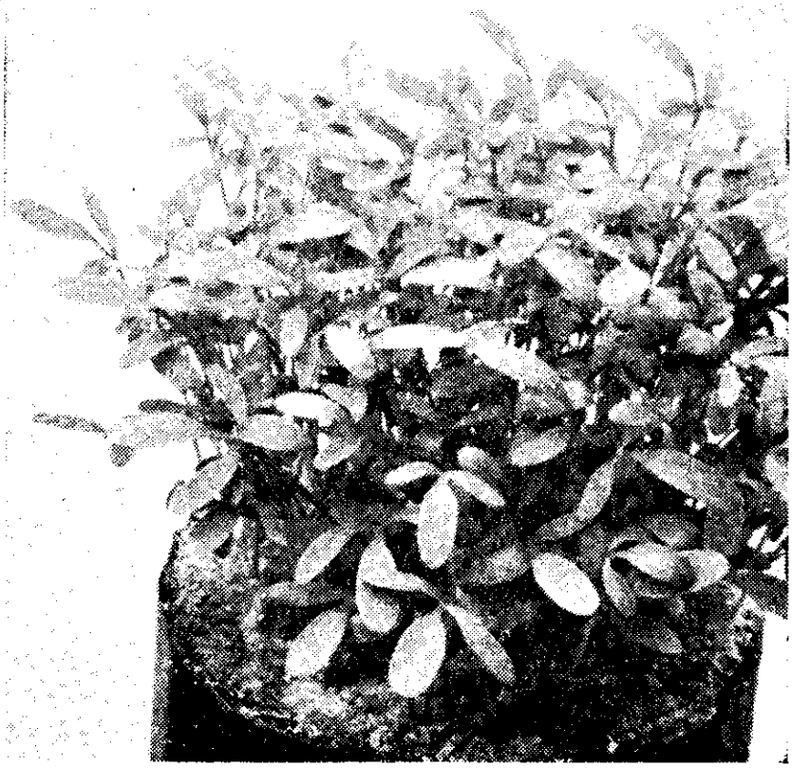
The next consideration was *how* to grow the cress. Though there exist precedents for gardening in the Antarctic, this would be the farthest south that it had ever been attempted. In Grahamland in the Falkland Islands Dependency, vegetables were grown in glasshouses, the medium used being soil; but as Dr. Morrison comments in his talk, soil has the obvious disadvantage of being heavy, and as at some stage of the journey to Antarctica it would have to be manhandled, some lighter substitute would be preferred.

Various alternatives were considered, one in particular eventually winning hands-down for suitability. This is a material recently developed in New Zealand that goes by the name of "expanded perlite." Perlite is a glassy volcanic rock, and when "expanded" by being drawn through a furnace at a high temperature and then blown up—as Dr. Morrison puts it—like popcorn, it looks something like ground pumice.

Research was then directed to discover the most fool-proof method of adding to the inert perlite the nutrients normally found in soil. As can well be appreciated, the procedure of growing the cress had to be as simple as possible. This would reduce to a minimum the possibility of making mistakes, and also mean that the work routine involved was not irksome to men whose time and energy were valuable. Altogether, cress was grown by six different methods at the Soil Bureau Experimental Station at Taita; in different mediums, with the cress getting its necessary nutrients from various sources. From this experimental work, described in *South Pacific Salad*, results were gained that are valuable not only to the Antarctic expedition planners, but to the commercial grower and the home gardener.

The cress, it is hoped, will be grown at Scott Base in a double shell prefabricated glasshouse equipped with a built-in heater, and venetian blinds to create artificial light. There would be only a few dozen pots of cress, but under the projected method, if only two adult leaves were allowed to develop on each plant before harvesting, 50 plants would make a generous four-inch square sandwich. About two square feet of cress will supply 50 such sandwiches in a week.

When we saw Sir Edmund Hillary recently he remarked that "Greenery down at the Pole is 99 per cent a psychological pick-me-up. I hope to grow it down there, but plans are not final yet. The gardening will be in the hands of the gardening enthusiast in the party." He added that five tons of other vegetables would be going down, most of this dried, tinned and dehydrated; a small quantity of deep frozen vegetables for the preliminary stages of the expedition being included. It was impossible to take much deep-freeze stuff as the John Biscoe was not equipped for it.



TEST CRESS

From two square feet, fifty sandwiches weekly

National Publicity Studios photographs

The Soil Bureau experimental station at Taita, where the cress-growing experiments were carried out, and (right), Dr. T. M. Morrison watering his cress plants