

and to prepare the planting material for the third device. The «upper» device will consist of the panel with one unit of fastening for one console with one greenhouse cell. The service lines for the greenhouse block will be placed at lateral sides of console. The technological greenhouse hardware will allow

creating the green plant raising conveyer for the crew nourishment.

The modular greenhouse with the variable geometry is intended to experiment with plants and to optimise the technology of the fresh green nourishment.

#### «Homeostasis 1» Experiment

### INFLUENCE OF HYPERGRAVITY, MICROGRAVITY AND IONIZED RADIATION ON THE STATE OF OXIDANT-ANTIOXIDANT HOMEOSTASIS OF RATS

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The purpose of the experiment is to examine the activity of antioxidant (AO) systems of the organism, as well as intensity of peroxidation of lipids (POL) in organs and blood of the rats in different periods after the space flight. The complex of antioxidants containing a dietary supplement ( $\beta$ -carrotin,  $\alpha$ -tokoferol, complex of catecholamines and ascorbic acid) and/or parenterally injected drugs will be used as a means for normalization of oxidant-antioxidant homeostasis of rats during a space flight.

The intent is to examine the indices of oxidant-

antioxidant homeostasis in blood and organs (brain, liver, spleen, small intestine) of rats: content of TBA-active products of POL, oxidant hemolysis of erythrocytes, activity of AO-enzymes (superoxide-dismutase, catalase, glutathion-reductase), content of  $\alpha$ -tokoferol and restored glutathione, as well as non-protein thiol groups. Impact of hypergravity on the same indices in blood and organs of rats will be studied in the ground-based laboratory.

The results of the experiment will be helpful to optimize the vital functions of astronauts during space flights.