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ATOMIC GARDEN IN YUGOSLAVIA

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The complex life of plants full of secrets which man has been trying for ages to discover, will start flourishing soon at a Yugoslav "atomic garden" to be established shortly by the Institute for the Application of Nuclear Energy in Agriculture, Forestry and Veterinary Medicine on the outskirts of Belgrade. The "garden" will be raised by means of funds to be supplied jointly by Yugoslavia and the Special U.N. Fund.

Under the recent contract, the Fund allocated 546,400 dollars for the purpose; the Yugoslav Government's share will be about 950,000,000 dinars. The project is the first of its kind in the world being entrusted by the Special Fund to a country for work in the field of peaceful uses of atomic energy. It provides for the Institute to be built in Zemun (a suburb of Belgrade) and to be equipped as the Yugoslav centre for work on the uses of nuclear energy in agricultural research. About ten prominent foreign experts will take part in the project and in the solving of its tasks along with Yugoslav specialists and scientific workers.

The project also provides for fifteen fellowships to be granted to Yugoslav experts for specialization abroad; during the next three years, the Institute will organize the training of fifty Yugoslav and fifteen experts in the most important uses of nuclear energy in agriculture.

The "atomic garden" will be an unusual, round tract, 120 metres in diameter, known in science as the "gamma field".

The source of rays, a radioactive isotope fixed to a device capable of being lowered and raised, will be in the centre of the garden. It will emit beams of radioactive rays which will fall on the cultivated beds like invisible sunlight. The strength of radiation will diminish with the distance from the source.

People have long since wished to cause, as quickly as possible, such useful hereditary changes in the most important crops as take place also in nature, but rarely and over a long period of time. To outwith nature, to make her act according to their will, scientists have used difficult methods. They have been successful, but not to extent they could be fully satisfied with.

RADIATION AND YIELDS

They came upon the idea of causing hereditary changes by radiation, along with the other known methods of improving the vigour of plants. The tests were encouraging as the countries they were carried out had already achieved results suggesting new possibilities of man's influence over the caprices of nature.

This is the kind of research that will go on at the Yugoslav "atomic garden" whose beds will be sown to wheat, maize, soya, sugar beet, various fruits, vegetables, pine-trees, poplars, etc.

By patient effort the experts will try to raise their yields, increase their drought resistance, enrich their ability to resist the attacks of parasites, and cause other changes useful to economy and human life.

On the small beds, fields and in orchards of the gamma field the scientists will also study the biological effects of lasting exposure to radiation. This will be of considerable significance also to the scientific world outside Yugoslavia, the more so as the knowledge about the effects of lasting radiation on the plant organisms and what changes it causes in their cells, is still insufficient.

The research activity on the outskrits of Belgrade will thus be supplementary to the one on the lasting effects of radio-active rays on living beings generally, which are aspired to with the aim of enabling the best and surest possible living conditions on earth.

The strength of minute atoms, controlled by the human will, will be used also to test yet another dilemma of the contemporary scientific world: whether nuclear radiation can induce plants to grow more quickly, to enlarge their own mass and thus to become an ever more important source of natural wealth of a country? If so, to what extent and under what conditions?

Nuclear energy, the radiation from "gamma sources", may cause surprise. Opinions on this point are divided in the scientific world. Research to be carried out in the Yugoslav "atomic garden" will probably shed more light also on this, as yet insufficiently explored field of science.