study tour in russia at harvesting time

A unique study tour on the use of isotopes and radiation in genetics and plant breeding was recently held in the USSR.
It was the 11th in the series of the Agency's Study Tour Programme for scientists from developing countries, the principles of which were outlined in Bulletin Volume 13, No.3, 1971.
Eight study tours were organised from 1966 to 1971.
This year three further tours have been conducted: the 9th on radiological protection in CSSR, Sweden, the Federal Republic of Germany and USSR,
the 10th on the mass rearing of insects as related to the sterile male technique in the USA,
and the latest again in the USSR.
Below are some notes on the programme and participation of this tour.

On 3 July a group of 29 plant breeders and geneticists from 27 developing countries gathered at the IAEA Headquarter in Vienna for briefing. After a one-day introduction into the plant breeding programmes of the Joint FAO/IAEA Division of Atomic Energy in Food and Agriculture, including visits to the IAEA laboratory at Seibersdorf and experimental fields at Rohrau (Niederösterreich), the group departed on July 6 for Moscow.

The month of July was not chosen because of its warm weather (which attracts thousands of tourists to travel through the Soviet Union), but because – in the northern hemisphere – it is the most important month in the professional year of the plant breeder. It is the pre-harvesting time and the breeder can see the results of his work in the field.

The scientists visisted the following research institutes in the USSR:

Moscow:
- Institute of General Genetics of the USSR Academy of Sciences
- Biophysics Institute of the USSR Academy of Sciences
- Main Botanical Gardens of the USSR Academy of Sciences
- Scientific Research Institute for Agriculture on Non-Tschernozem Soils in Central Districts
- Timiryazev Agricultural Academy

Leningrad:
- All-Union Research Institute for Plant Breeding (Vavilov-Institute)
- Agrophysics Institute

Kiev:
- Plant Physiology Institute of the USSR Academy of Sciences
- Zabolotny Institute of Virology and Microbiology of the Ukrainean Academy of Sciences

Novosibirsk:
- Institute of Cytology and Genetics of the Siberian Branch of the USSR Academy of Sciences.

a) Scientists take on-the-spot notes while visiting the experimental fields at Nemchinovka. Delegates came from 29 countries.

NOTES . . .

. . . AND EXPLANATIONS

b) Interpreters are indispensable, and here a Russian interpreter helps with a discussion about the advantages of chemical mutagens applied to Triticum x Agropyrun hybrids with Dr. N. S. Aigaes of the Institute of General Genetics. Photo: IAEA/Busch

These visists comprised lectures and discussions, laboratory tours and demonstrations in the experimental fields. The curiosity of the participants was tremendous and discussions went on for hours, even under the burning sun of continental summer weather.

The participants informed themselves on developments and achievements in general genetics as well as in more specific subjects such as breeding of wheat, rye, barley, potatoes, peas, beans, tomatoes, ornamental trees, lucerne and others.

Frequently the discussions moved from questions related to the application of radiation and isotopes to general problems of plant breeding, thus enabling the participants to recognize irradiation as a most valuable additional tool in the hand of the plant breeder, and to compare its effectiveness with chemical mutagenesis.

It speaks for the flexibility of the USSR Committee on the Peaceful Uses of Atomic Energy, that it was able to organize all these contacts which were sometimes outside of the traditional scope of peaceful uses of atomic energy, but reflect the steadily increasing integration of nuclear techniques into biological sciences.

The achievements of the tour can best be summarized by quoting from reports of the participants:

- "The visit of the study tour group to the USSR enabled us to obtain first hand information on the status of scientific research with particular reference to mutation breeding."
- "It was an illuminating experience for the single reason, that scientific literature from the USSR is very scarce in my country".
- "I am teaching a course on the cytogenetic bases of plant breeding. The wealth of information which I gathered during this tour will be very helpful in improving this course."
- "The trip to Novosibirsk was most useful. The excellent work being done there was so interesting, that even a $1\frac{1}{2}$ day extension of stay was not enough."
- "The most significant aspect of this tour was, that it was an excellent opportunity to become acquainted not only with the current work on the subject of the tour, but also to establish personal contacts with many Soviet scientists and with fellow plant breeders from so many different countries."

It can thus be concluded that the scientific harvest of the tour was remarkable and that a fruitful "exchange and training of scientists and experts in the field of peaceful uses of atomic energy" took place; and this is exactly what the Agency must encourage under its Statute.