

The Rockefeller wheat and the new peppermint illustrate the value of radiation to obtain mutations more quickly than conventional methods—sometimes as the only feasible method. It is important to note, however, that radiation cannot induce each and every desirable mutation.

Researchers induce favorable agronomic characters by irradiating seeds or by exposing the growing plants or tissues to radiation. Mutants are usually isolated from the progenies of the second or subsequent generations. Those of agricultural interest are selected and subjected to further evaluation.

Improved crop qualities developed through radiation mutation include bread wheat resistant to rust diseases, barley with increased winter hardiness, and a peanut strain featuring damage-resistant hulls, good taste, and higher yield. In the horticulture area, many disease-resistant flower mutants have been produced; these include redder roses, more colorful chrysanthemums, and larger dahlias.

Under development at the Agriculture Research Laboratory of the University of Tennessee is a thornless blackberry bush that is also resistant to diseases and rigors of climate. Thornless berry bushes are not new. A limited number have been developed through normal breeding, but that process requires several years, and the resultant strains have been susceptible to diseases and weakened by weather. Cuttings of thornless plants have been developed in a few months with radiation-induced mutations; this enables the researcher to speed efforts to stabilize the strain as consistently thornless.

The superhighway traveler in the South has likely admired a hardy and handsome green ground cover along many banks and rights-of-way. It is a mutant strain of lespedeza called, appropriately enough, "hi-way." The leafy plant, which requires little maintenance, was developed by researchers at Auburn University in cooperation with University of Tennessee facilities at the AEC's Oak Ridge installation.

The work is worldwide and continuing. New mutant plant strains have been developed in Argentina, Austria, China, Czechoslovakia, India, Indonesia, Italy, Japan, the Netherlands, Sweden, the Soviet Union, and the United Kingdom, as well as in the United States. Next June scientists from around the world will meet in Vienna to discuss ways in which the protein content of food crops may be elevated by using nuclear radiation. The emphasis will be on staple crops which provide