ginia Agricultural Experiment Station at the Virginia Polytechnic Institute, Blacksburg, Va., was celebrated on July 27 at a meeting held in conjunction with the Institute of Rural Affairs. The following program, presided over by Dr. John R. Hutcheson, director of the Virginia Agricultural Extension Division, was presented: "Some Results of Research at the Virginia Agricultural Experiment Station," by Director A. W. Drinkard, Jr.; "Some Results of Research at the Virginia Truck Experiment Station," by Director H. H. Zimmerley, and "The Place of Research in Planning for Rural Living," by Dean W. C. Coffey, of the University of Minnesota.

THE first program devoted to internationalism in science with the object of interpreting the dangers confronting freedom of scientific thought was broadcast by "Adventures in Science" over the Columbia network on August 12. Professor Edwin G. Conklin, of Princeton University, outlined specific situations that exist in which scientific men and the scientific method of approaching problems are being restricted by war and political attitudes. Appearing on the program with Professor Conklin was Dr. Paul B. Sears, formerly of the University of Oklahoma, who was recently appointed professor at Oberlin College. "Adventures in Science" is one of the adult education series, presented under the guidance of the Adult Education Board of the Columbia Broadcasting Company, of which Dr. Lyman Bryson, professor of education at Teachers College, Columbia University, is the chairman.

A CABLE from San Juan, Puerto Rico, to *The New York Times* states that according to a message received by Governor Blanton Winship from Frederick Coykendall, chairman of the board of trustees of Columbia University, the cooperation of the university with the University of Puerto Rico in the School of Tropical Medicine will be continued. This had been threatened by recent legislation eliminating the representation of Columbia University on the board of trustees. The message was in answer to one from Governor Winship giving assurance that the provisions of the bill eliminating Columbia University were an "error" which would be corrected.

DISCUSSION

THE VENOMOUS EFFECTS OF SOME ARIZONA SCORPIONS

DR. BAERG[1] states that the relative harmlessness of scorpions in the United States is generally known. It seems that this statement ought not to go unchallenged. More lives have been lost in Arizona from the sting of the scorpion than from the bite or sting of any other venomous arthropod or reptile at least during the nine-year period since 1929. For a period of six and one half years, beginning with 1929, there were recorded twenty-five deaths resulting from the sting of the scorpion and only ten deaths caused by the rattlesnake, gila monster and other poisonous animals. Most of the deaths due to scorpion sting have occurred in the southern part of the state, particularly in the Salt River Valley, and the victims have been children usually six years of age and under. The writer knows of one case in which an eight-year-old child succumbed to a scorpion sting.

In and around Mesa, Ariz., one commonly finds two species of scorpions, *i.e., Vejovis spinigerus* (Wood) and *Centruroides sculpturatus* Ewing. A third species less commonly taken is *Hadrurus hirsutus* Wood, the giant hairy scorpion.[2]

The effect of the venom of these scorpions was tested on white rats (the Wistar strain) by permitting the scorpion to sting the experimental animal, usually in the hind foot where there is little or no fur and local reactions can more readily be observed. The sting of *H. hirsutus* caused a swelling in the region of the sting so that the toes were about twice their normal size. In the case of *V. spinigerus* a swelling likewise occurred, but it was not nearly so great as that produced by *H. hirsutus*. Other than the swelling none of the rats showed further effects from the venom of either of these two species. A slight nervousness was observed, but this was attributed to fright rather than to the venom. After about the first five minutes the rats did not even avoid walking with the swollen foot, but the foot was sensitive, more so than the others, when touched with forceps. Within two or three hours all signs of the sting had disappeared.

In the case of the third species, *C. sculpturatus,* no local swelling was noticeable, although the foot was favored, but the reaction seemed to be general and neuropathic. Death occurred within a period varying from ten minutes to one and one half hours. A general description of events from the time of the sting until death may be stated as follows. Within one or two minutes after the sting the rat shows signs of nervousness by a gentle alternate patting of the front feet on the floor of the cage. Then there appears to be an itching in the nose as the rat frequently goes through vigorous cleaning reactions over that region. Soon the animal begins to sneeze and the nose drips a colorless fluid. This symptom reminds one of a

1 W. J. Baerg, *Natural History,* 42: 1, 42, June, 1938.

2 Tentatively determined from H. E. Ewing's key in "The Scorpions of the Western Part of the U. S." No. 2730 of the Proceedings of the U. S. National Museum, Vol. 73, Art. 9, pp. 1–24, 1928.

severe case of hay fever. The sneezing continues and finally develops into convulsive reactions. At this time the animal is very sensitive to touch, so that if even the fur is lightly touched the animal jumps and squeals. Salivation begins with the sneezing and continues so that the mouth becomes quite frothy. At about this time the animal will insert its toes within its mouth as though trying to dig out some object in its throat. In many of the cases urination and defecation result. The eyes are dull and glassy. In some animals the nose bleeds. The hind legs become paralyzed. Finally the animal falls on its side, breathes heavily and then gradually succumbs. Death seems to be due to edema of the lung.

In the children observed the reactions of the victims of *C. sculpturatus* are very similar to those shown by the white rat but extend over a greater period of time. In the case of the eight-year-old child noted above, death occurred within seven hours after the sting. *V. spinigerus* sting causes a local redness and swelling in the region of the sting. Sometimes a small white spot appears around the sting in addition to the above reactions. The writer has not observed any case of *H. hirsutus* sting in man.

Upon request, the Institute of Hygiene of the Department of Public Health, Popotla, D. F., Mexico, graciously sent gratis two ampullae of their anti-scorpion serum prepared for use on victims of *C. suffusus* and *C. noxius,* two deadly Mexican scorpions. This serum was tried on rats stung by *C. sculpturatus* and found effective, even though the animals were in advanced stages of poisoning. Since then the serum has been tried on human victims of *C. sculpturatus.* In all cases it has proved entirely effective, and no deaths have resulted from scorpion sting, even though the serum was used in quite advanced stages of poisoning.

H. L. STAHNKE

IOWA STATE COLLEGE AND
MESA UNION HIGH SCHOOL,
MESA, ARIZ.

STIMULATION OF KUDZU CUTTINGS

IN view of its desirable growth characteristics in soil conservation work, kudzu is an important plant in the South. However, successful propagation of this plant from seeds and cuttings on a large scale has been limited.

In October, 1937, the Horticultural Department of the University of Georgia and the Soil Conservation Service, in Athens, started a cooperative project for the study of kudzu propagation. In the first greenhouse trial, three commercial synthetic hormone products were used at recommended dilutions for recommended durations. The results given in Table I were obtained after fourteen days.

TABLE I

Commercial product	No. set out	No. rooted	No. unrooted	Per cent. of cuttings rooted
'A' Dilute	75	51	22	68
'A' Standard ..	75	64	11	85
'B' Dilute	75	46	24	61
'B' Standard ..	75	47	27	63
'C' Dilute	72	48	23	67
'C' Standard ..	75	39	27	52
Untreated	75	38	33	51

The results from this trial indicated that cuttings treated with hormones produced a higher percentage of strikes than untreated ones. However, the most noticeable effect was the increase in size and number of roots per cutting. This indication was considered sufficient to justify a second trial, using the material that had given the best results. In addition to this superior hormone product, it was decided to include a comparative test using potassium permanganate, one ounce to eight gallons of water for thirty minutes, which had given good results in previous tests with ornamentals. The results obtained after a thirty-day period are given in Table II.

TABLE II

	No. planted	No. rooted	No. unrooted	Per cent. rooted
Check no. treatment	302	128	174	42.4
'A' Standard	300	160	140	53.3
'A' Standard + ...	150	90	60	60
'A' Standard ++ ...	299	127	172	42.5
Potassium Permanganate ..	150	129	21	86

The second trial confirmed the indications of the first in that the treated rooted cuttings showed an increase in the number and size of roots over the untreated ones. The indications are that the potassium permanganate is superior to any hormone product yet tested for kudzu, both as to percentage of strike and size and number of roots developed. The stimulating results obtained through the use of potassium permanganate warrant further studies.

M. C. MYERS
ROY A. BOWDEN

HORTICULTURAL DEPT.,
UNIVERSITY OF GEORGIA

F. E. HARDISTY

SOIL CONSERVATION SERVICE,
ATHENS, GEORGIA

"A CROSS-SECTION OF OUR TIME"

As part of its activity in connection with the New York World's Fair of 1939 the Westinghouse Company is considering the preservation of a "Cross-section of our Time" in a large capsule of copper alloy, to be deposited deep in the earth at the site of the fair, with proper ceremony, some time late in September of this year. The capsule, which has engaged considerable engineering and metallurgical attention, is to be so constructed as to last 5,000 years. The articles