Cross Female	Male	Percent Seed Set Replication 1	2	3	4	5	6	Ave.
High Seed Set	x High Seed Set	63.4	58.8	53.3	56.3	62.3	56.7	58.5
Low Seed Set	x High Seed Set	49.3	55.2	54.7	51.7	48.7	52.4	52.0
High Seed Set	x Low Seed Set	57.3	51.9	51.1	54.9	51.9	49.9	52.8
Low Seed Set	x Low Seed Set	50.3	40.4	48.9	53.4	53.9	40.0	47.8

This data indicates that both the pollinator and the ear parent have an effect upon the seed set percentages expressed by the ear parent. Both appear to have equal or near equal effects in determining the percent of the ovules laid down by the female parent that can develop into normal kernels.

T. C. Warfield, Jr.

BLANDY EXPERIMENTAL FARM
University of Virginia
Charlottesville, Virginia

1. Blandy Radiation Field.

The Blandy Radiation Field was put into operation in July 1957. The field is a paved circle 30 feet in diameter embedded in the side of a hill with a Co^{60} source of 125 curies in the center. Doses as high as 1800 r can be given in a 24 hour period, sufficient to produce abundant "mutations" in corn. Current research work is devoted to ascertaining the nature of mutations induced at different stages in the life cycle of the corn plant. Present indications are that changes induced after meiosis are largely chromosomal while the recoverable mutants induced prior to meiosis resemble intragenic mutations. All plants exposed to radiation in the Blandy field are grown in 12-quart pails and moved in for a limited period of radiation.

2. Blandy Experimental Farm Graduate Fellowships.

A few graduate fellowships of $1200 each are available for students wishing to do graduate work at the Blandy Experimental Farm. Blandy Fellows are exempt tuition and fees at the University. About one half of the year is spent at the Blandy Farm, the remainder of the year in Charlottesville. While at the Farm students are supplied rooms at no cost, and board is on a cost basis, rarely as much as $30 a month. So

the $1200 fellowship has more purchasing power than in many places. Students interested in radiation research, especially with maize, may wish to apply. The deadline for applications is February 28, and awards are announced soon after April 1.

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1. Single gene dwarf mutants of maize and their differential growth response to gibberellins and to gibberellin-like substances.

The 4 mutants, d-1, d-2, d-3, and d-5, respond by normal growth to microgram amounts of the gibberellins produced by the fungus Gibberella fujikuroi. Gibberellic acid (gibberellin A_3) has about twice the activity of gibberellin A_1. This relative activity is the same for the 4 mutants. Of the numerous gibberellin-like substances from flowering plants that produce a similar growth response with these 4 mutants, bean factor I has been isolated in crystalline form from young bean seeds (Phaseolus vulgaris). It has the same infrared spectrum and the same biological activity as gibberellin A_1. (British workers have recently reported the isolation of gibberellin A_1 from runner beans.)

Using the maize dwarfs for bioassay, additional gibberellin-like substances have been obtained from beans (Phaseolus vulgaris) and peas (Pisum sativum) that have biological properties different from the substances indicated above. These properties are as follows:

1. Bean factor II. Material has been isolated by chromatography and prepared in crystalline form. Thus the activity can be expressed relative to gibberellic acid. On this basis, activity is in the order of 130% that of gibberellic acid for the mutants, d-2, d-3, and d-5. However, activity is less than 10% that of gibberellic acid for the mutant, d-1. At low levels, d-1 seedlings show no growth response to bean factor II, while d-2, d-3, and d-5 seedlings respond at these levels by normal growth.

2. Pea factor II. Material has been purified, but is not crystalline. As yet, d-1 seedlings have shown no growth response to this factor, while d-2, d-3, and d-5 seedlings respond by normal growth.

These data are useful in determining the relative order of the dwarfing genes that presumably block different steps in a metabolic pathway concerned with gibberellin production in Zea mays. The data suggest that the d-1 gene is terminal for this series of mutants.