duces comparable yields with 'Deltapine 16', matures 10 to 14 days earlier and has longer and stronger fiber. DES 21326-04 has shown a potential for reducing the probability of lower yield from late plantings.4

Subsequent reselection of DES 21326-04 resulted in several strains of which three were designated as DES 04-6, DES 04-11, and DES 04-606. In 1974 these strains were included in the evaluation of 405 genotypes for tolerance to the herbicide glyphosate [N(phosphono-methyl)glycine] applied over-the-top of cotton in the early bloom stage. These three strains were selected as having glyphosate tolerance. In 1975, 1976, and 1977 these strains were evaluated for tolerance when glyphosate was applied over-the-top. In an additional study in 1977, the genotypes were treated with repeated directed applications of glyphosate.5 When the herbicide was directed to the base of the plant, cotton injury was 10% or less compared to 65-80% injury for over-the-top applications. Yield of these strains was not significantly reduced from untreated controls when one or two separate applications of glyphosate were directed to the base of the cotton plants.

These three genotypes (DES 04-6, DES 04-11, and DES 04-606) have the earliness of DES 21326-04 and have shown measurable tolerance to directed applications of glyphosate. They may have value in the development of commercial cotton cultivars with increased tolerance to glyphosate.

Seed (25 g) of these breeding lines may be obtained from R. R. Bridge, Delta Branch, Mississippi Agric. and Forestry Exp. Stn., Stoneville, MS 38776.

REGISTRATION OF VIRGINIA SYNTHETIC A CROWNVETCH GERMPLASM
(Reg. No. GP 29)

John D. Miller5

Virginia Synthetic A germplasm of crownvetch, Coronilla varia L., released by AR-SEA-USDA and Virginia Polytechnic Institute and State Univ., is the first known synthetic selected for tolerance to acid soils. This synthetic traces to five sources—'Chemung', 'Emerald', 'Penngift', Maryland Hay and Maryland Pasture. The first three of these are released cultivars but Maryland Hay and Maryland Pasture are experimental synthetics developed by AR-SEA at Beltsville, Maryland. About 1,400 plants of each of these strains were grown in the greenhouse at six lime levels ranging from 2.24 to 13.44 metric tons/ha applied to extremely acid mine spoils (pH of 3.4). The spoil material ranged from pH 3.8 to pH 5.6 depending on amount of lime added. Superior plants were selected from all lime levels and increased as clones. One-hundred sixty-seven clones were transplanted into a relatively acid mine spoil area with pH of 5.2 at White Oak, West Virginia, in the spring of 1973. Forty-seven superior clones were identified and propagated to establish the source nursery for Virginia Synthetic A. Ten of these clones came from Chemung, 17 came from Emerald with six each from Penngift and Maryland Hay. Maryland Pasture contributed eight clones. Bulk seed was harvested from all clones.

Clones comprising this germplasm pool are variable for many characters. Most clones are semierect but a few are either erect or prostrate for growth habit. Flower color is generally pink but some clones produced rose-colored flowers. Stems are predominately coarse but a few are rather fine in size. Most clones produce a single pod per plant; however, some of the later maturing clones can produce a few additional pods per plant. Leaf size and color varies from medium to large, and a few clones have a deeply veined leaf. Maturity varies from early to late. Leaf size and color vary from medium to large. Sensitive maturity is poor under drouthy conditions. It has not been evaluated for resistance to hopper damage by both the southwestern corn borer, Ostrinia nubilalis (Hübner), and the fall armyworm, Spodoptera frugiperda (J. E. Smith), and as a source of resistance to corn rust caused by Puccinia polysora Underw.

When evaluated at Mississippi State for leaf-feeding damage by the southwestern corn borer, Mp496, which has an intermediate level of resistance, Mp703 demonstrated high general combining ability. When evaluated at Mississippi State for leaf-feeding damage by the fall armyworm in 1979, Mp703 showed less injury for over-the-top applications of glyphosate, s When the herbicide was directed to the base of the plant, cotton injury was 10% or less compared to 65-80% injury for over-the-top applications. Yield of these strains was not significantly reduced from untreated controls when one or two separate applications of glyphosate were directed to the base of the cotton plants.

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REGISTRATION OF Mp703 LINE OF MAIZE
(Reg. No. GP 83)

W. Paul Williams and Frank M. Davis5

Mp703 is a yellow dent inbred line of maize developed cooperatively by the Mississippi Agric. and Forestry Exp. Stn., AR-SEA-USDA. Breeder seed is maintained by the Mississippi Dep. of Agronomy, Mississippi State Univ. The synthetic is a source of leaf-feeding resistance to the southwestern corn borer, Diatraea grandiosella (Dyar), and the fall armyworm, Spodoptera frugiperda (J. E. Smith), and as a source of resistance to hopper damage by both the southwestern corn borer, Mp496, which has an intermediate level of resistance, Mp703 demonstrated high general combining ability. When evaluated at Mississippi State for leaf-feeding damage by the fall armyworm in 1979, Mp703 showed less injury for over-the-top applications of glyphosate, s When the herbicide was directed to the base of the plant, cotton injury was 10% or less compared to 65-80% injury for over-the-top applications. Yield of these strains was not significantly reduced from untreated controls when one or two separate applications of glyphosate were directed to the base of the cotton plants.

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REGISTRATION OF VIRGINIA SYNTHETIC A CROWNVETCH GERMPLASM
(Reg. No. GP 29)

John D. Miller5

Virginia Synthetic A germplasm of crownvetch, Coronilla varia L., released by AR-SEA-USDA and Virginia Polytechnic Institute and State Univ., is the first known synthetic selected for tolerance to acid soils. This synthetic traces to five sources—'Chemung', 'Emerald', 'Penngift', Maryland Hay and Maryland Pasture. The first three of these are released cultivars but Maryland Hay and Maryland Pasture are experimental synthetics developed by AR-SEA at Beltsville, Maryland. About 1,400 plants of each of these strains were grown in the greenhouse at six lime levels ranging from 2.24 to 13.44 metric tons/ha applied to extremely acid mine spoils (pH of 3.4). The spoil material ranged from pH 3.8 to pH 5.6 depending on amount of lime added. Superior plants were selected from all lime levels and increased as clones. One-hundred sixty-seven clones were transplanted into a relatively acid mine spoil area with pH of 5.2 at White Oak, West Virginia, in the spring of 1973. Forty-seven superior clones were identified and propagated to establish the source nursery for Virginia Synthetic A. Ten of these clones came from Chemung, 17 came from Emerald with six each from Penngift and Maryland Hay. Maryland Pasture contributed eight clones. Bulk seed was harvested from all clones.

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