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COKER STUART AND HAMPTON SOYBEANS[1]

(Reg. Nos. 46 and 47)

Henry W. Webb and John D. Hicks, Jr.[2]

'COKER STUART' soybeans (*Glycine max* (L.) Merr.) originated as an F_4 plant selection from the cross Majos × Lee in a program conducted by Coker's Pedigreed Seed Company, Hartsville, South Carolina. Prior to release Coker Stuart was identified by the number Co. 57–257. It is classed in maturity group VIII and is adapted to the southeastern United States.

Distinguishing characteristics of Coker Stuart are: Flowers—white; Pubescence—gray; Pods—tan; Seed coat—dull yellow; and Hilum—buff.

Tests in its area of adaptation indicate that Coker Stuart is somewhat higher in yield, taller, and superior in shatter resistance and later in maturity than Jackson and Bienville (Table 1). Coker Stuart is resistant to bacterial pustule, wildfire, and frogeye.

Coker Stuart was released in 1964 in the southeast with emphasis placed on the Southern Coastal Plains of South Carolina, Coastal Plains of Georgia, Alabama, and North Florida. Coker's Pedigreed Seed Company will be responsible for maintenance of breeders seed. In 1962 Coker's Pedigreed Seed Company distributed first official brochure on this variety.

'HAMPTON' soybeans (*Glycine max* (L.) Merr.) originated as an F_4 plant selection from the cross Majos × Lee in a program conducted by Coker's Pedigreed Seed Company, Hartsville, South Carolina. Prior to release Hampton was identified by the number Co. 57–225. It is classed in maturity group VIII and is adapted to the Southeastern United States.

Distinguishing characteristics of Hampton are: Flowers—purple; Pubescence—gray; Pods—brown; Seed coat—dull yellow; and Hilum—about 50% of seed have imperfect black and 50% buff color.

Regional tests indicate that Hampton yields more, is higher in oil content, and superior in disease and shatter resistance to Jackson (Table 2). Hampton is resistant to bacterial pustule, wildfire, frogeye, and target spot.

Hampton was initially released in 1962 in North Carolina, South Carolina, Georgia, Florida, Alabama, and Mississippi. Coker's Pedigreed Seed Company will be responsible for maintenance of breeder seed.

Hampton's release was announced and a brief description was published in March 1962 issue of *Crops & Soils*. In 1962 Coker's Pedigreed Seed Company distributed first official brochure on this variety.

[1] Registered under a memorandum of understanding between the Crops Research Division, ARS, USDA, and the American Society of Agronomy.

[2] Plant Breeder and Assistant Plant Breeder, Coker's Pedigreed Seed Company, Hartsville, South Carolina.

Table 1. Mean performance of Coker Stuart soybeans in 16 tests at various locations in its area of adaptation (average of 8 tests per year, 1961 and 1962).

Variety	Seed yield		Rel. mat.	Lodging*	Plant ht.,	Shattering †	Seed quality‡	Seed size	Seed composition	
	Bu./A	Lb./A	days	score	in.		score	g./100	Protein %	Oil %
Coker Stuart	34.3	2058	+7	1.9	35	1.2	1.5	19.8	41.6	20.8
Jackson	31.6	1896	−1	1.1	31	2.6	1.5	16.8	39.7	22.4
Bienville	31.5	1890	0	1.2	32	2.8	1.5	15.9	41.0	22.0

* From 1 (erect) to 5 (prostrate). † From 1 (no shattering) to 5 (over 20% shattered).
‡ From 1 (excellent) to 5 (very poor).

Table 2. Mean performance of Hampton soybeans in 40 tests at various locations in its area of adaptation (average of 13 tests per year, 1960 to 1962).

Variety	Seed yield		Rel-mat.,	Lodging*	Plant ht.,	Shattering †	Bac. pust.‡	Seed size,	Seed composition	
	Bu./A	Lb./A	days	score				g./100	Protein %	Oil %
Hampton	37.3	2238	+3	1.3	33	1.0	1.0	17.3	38.4	22.8
Jackson	34.0	2040	0	1.2	34	2.7	2.5	16.5	39.1	22.6

* From 1 (erect) to 5 (prostrate). † From 1 (no shattering) to 5 (over 20% shattered).
‡ Bacterial pustule score. From 1 (immune to highly resistant) to 5 (leaves covered with lesions and much necrosis).

CYPRESS WHEAT[1]

(Reg. No. 440)

Hugh McKenzie and M. N. Grant[2]

'CYPRESS' (*Triticum aestivum* L.), CI 13344, a hard red spring wheat, was developed in Canada through the co-ordinated efforts of the Prairie Region Project Group. Cypress is a selection from the cross 'Rescue' × 'Chinook' made in 1947 at the Experimental Farm, Swift Current, Saskatchewan. Selection in early generations was primarily for superior agronomic characteristics and resistance to the wheat stem sawfly (*Cephus cinctus* Nort.). Cypress possesses a high degree of resistance to the sawfly combined with good milling and baking quality. The grain is very attractive in appearance.

Cypress is similar to the two older sawfly-resistant varieties, Rescue and Chinook, in yield, bushel weight, and maturity. It is superior to Rescue in baking quality and superior to Chinook in resistance to both sawflies and shattering.

The spike of Cypress is fusiform, mid-long, mid-wide, smooth and white; the shoulders are square, some slightly elevated and some slightly oblique; and the beaks are mid-wide and acute. The kernels are ovate to elliptical, mid-long, mid-wide, hard and red; the crease is mid-wide and mid-deep; the cheeks are rounded to angular; the brush is mid-size to large, short to mid-long; and the germ is mid-size and oval.

Cypress has some resistance to stem rust but is susceptible to stem rust race 15B and to leaf rust and the smuts.

Cypress is adapted to the dry prairie areas where sawflies and drought are the main hazards in wheat production.

Breeder seed will be maintained at the Canada Department of Agriculture Research Station at Lethbridge, Alberta.

Additional information on Cypress was reported by McKenzie et al.[3]

[1] Registered under a memorandum of understanding between the Crops Research Division, ARS, USDA, and the American Society of Agronomy. Received Nov. 27, 1964.

[2] Research Officers, Plant Science Section, Canada Department of Agriculture, Research Station, Lethbridge, Alberta, Canada.

[3] McKenzie, Hugh, Grant, M. N., Whiteside, A. G. O., McBean, D. S., Hurd, E. A., and Kusch, A. G. Note on Cypress, a new hard red spring wheat. Can. J. Plant Sci. 43:232–234. 1963.

DELTAPINE 15, DELTAPINE STAPLE, DELTAPINE SMOOTH LEAF, FOX 4, AND DELTAPINE 45 COTTONS[1]

(Reg. Nos. 46, 47, 48, 49, and 50)

E. C. Ewing, Jr.[2]

'DELTAPINE 15' was selected by E. C. Ewing from Deltapine 14. Selected in 1938 and first distributed in 1948, it was originally designated as 'Deltapine 14–833'. It has the same general characteristics of 'Deltapine 14', i.e., high yield under a wide variety of environmental conditions, medium early maturity, rather indeterminate fruiting habit, high lint percentage, and small bolls. Deltapine 15 was selected for its improved fiber strength and slightly larger bolls as compared with its parent. This improvement in fiber properties came about as a result of the use of the Pressley Tester and the setting up of commercial fiber test facilities by the then P&MA division of the USDA. Deltapine 15 has some tolerance to the common diseases of cotton except for the Fusarium wilt-Nematode complex.

In 1954, approximately 34% of the cotton acreage in the United States was planted to this variety. It was also the dominant variety in Mexico and Central America.

[1] Registered under a memorandum of understanding between the Crops Research Division, ARS, USDA, and the American Society of Agronomy.

[2] Plant Breeder, Delta and Pine Land Co., Scott, Mississippi.

Table 1. Average results of cotton variety tests at Scott, Mississippi.

Variety	Lint yield, lb./A	Lint %	Stelometer @ 1/8" gauge		Fibrograph			Pressley index	T_1	E_1	Micronaire, index	Classer's		Leafiness, index *	Plant height, index †	Lodging index‡
			Strength gm/tex	Elongation,%	UHM, in.	ML, in.	Unif., ratio					Grade, index	Staple, 32nds			
Average of 6 years, 11 tests 1951-1955																
Deltapine Staple	859	34.7	19.0	7.3	1.16	0.93	80	7.7	1.90	7.3	4.5				2.9	
Deltapine 15	848	36.5	19.6	8.0	1.10	0.89	81	7.6	1.96	8.0					2.5	
Average of Main Variety Tests, 1959-1962																
Deltapine 15	782	35.8	20.6	5.8	1.11	0.87	78				4.1	82	34.2	1.5	2.3	1
Deltapine Smooth Leaf	823	35.5	20.9	6.0	1.12	0.88	79				4.2	86	34.3	1.8	2.2	0
Fox 4	782	33.7	21.2	4.7	1.11	0.90	81				4.5	81	34.1	1.9	2.2	1
Deltapine 45	954	35.0	20.8	5.3	1.10	0.89	80				4.4	80	34.1	2.4	2.1	5
Stoneville 7 and 7A	846	35.6	19.5	5.1	1.10	0.86	78				4.4	82	33.9	2.1	2.2	1
Dixie King	794	33.0	20.3	4.5	1.10	0.87	79				4.3	80	34.2	3.0	2.7	4
Rex	783	32.7	19.0	5.0	1.08	0.84	77				4.1	78	33.8	3.1	2.0	7

* Comparative rating: 1 sparsely leaved, 2 medium, 3 heavy. † Comparative rating: 1 short plant, 2 medium, 3 tall. ‡ Number of plots observed as lodged, maximum possible 16.

Its characteristics are compared with several currently popular varieties in Table 1. Additional data are available in the USDA Regional Cotton Variety Test Reports (ARS) and the "Annual Cotton Quality Surveys (AMS), plus the published reports of most state experimental stations from 1947–1963.

'DELTAPINE STAPLE' originated as a plant selection from Deltapine 15 in 1948, and was designated as 15–8217 before its release by the Delta & Pine Land Company in 1955. Approximately 1/16" longer than Deltapine 15 and slightly coarser, it was expected that it would be ideally suited to the combed yarn trade. Primarily tested in dry years, 1951–1954, it performed less well in wet seasons. Beside the differences in fiber properties, it had a taller, leafier plant than its parent and had a 2% lower lint percentage. Bolls were slightly larger. It was grown commercially from 1955 to 1958, but is no longer in production. It was never very important and is submitted for registration as a matter of record.

A summary of its characteristics is given in Table 1.

'DELTAPINE SMOOTH LEAF' is a direct selection from the 1945 Increase Progeny row block of Deltapine 15. The advent of the mechanical cotton picker in the early 1940's and the postwar deterioration of the quality of hand picking led to new practices to improve grade, such as defoliation and more cleaning equipment in gins. At about this same time, it was noted by S. L. Calhoun of the Delta Branch Experiment Station and others that absence of leaf pubescence was directly associated with higher lint grades. Original strains which established this relationship were selected from Deltapine 11A, but Deltapine Smooth Leaf was selected from Deltapine 15 in 1944 and subsequently reselected in 1949, being designated as 15–5200–94 before its release as Deltapine Smooth Leaf. Those responsible for its development were E. C. Ewing, E. C. Ewing, Jr., E. L. Gilbert, and R. G. Hanson.

As indicated above, its outstanding characteristic is smoothness of leaf, which gives a grade (with machine picked cotton) one-half to one full grade above other popular hairy leaved varieties. In addition, it has a higher yield and lint percentage than its parent, matures earlier and does not grow quite so tall. Its disease reaction is approximately the same as that of Deltapine 15. Its fiber properties are essentially identical to those of Deltapine 15.

It is probably more widely distributed throughout the world than any other single variety grown up to this time (1963), when it comprised 25% of the U. S. acreage.

Its characteristics are compared with several other currently popular varieties in Table 1. Additional data are available in the USDA Regional Cotton Variety Test Reports (ARS) and the "Annual Cotton Quality Surveys (AMS)," plus the published reports of most state experiment stations from 1957–1963.

'Fox 4' originated as a 1950 selection (Fox 0253) from the variety 'Fox'. It was developed by the Research staff of the Delta & Pine Land Company, including E. C. Ewing, E. C. Ewing, Jr., E. L. Gilbert, and R. G. Hanson, and was released for sale in 1958. Fox was named for J. W. Fox, General Manager of the Delta & Pine Land Company's farming operations from 1911 to 1944. Fox 4 is superior to its parent in that it has higher yield, better lint percentage, slightly more tolerance to fusarium wilt, higher tensile strength, and higher micronaire. General characteristics of the Fox variety are a lower lint percentage (than Deltapine 15), short plant type, with ease of defoliation and very early maturity.

Fox cottons have had their greatest popularity in Arkansas, Missouri, Mississippi, and Tennessee and Fox 4 is no exception. Maximum acreages were reached in 1960, when Fox 4 percentages of the totals grown in the four states above were 4, 26, 7, and 6, respectively.

Its characteristics are compared with several other currently popular varieties in Table 1. Additional data are available in the USDA Regional Cotton Variety Test Reports (ARS) and the "Annual Cotton Quality Surveys (AMS)," plus the published reports of most state experiment stations from 1957 to 1963.

'DELTAPINE 45' is the third successive varietal selection from a cross made by E. C. Ewing in 1938 between Deltapine 14 and Stoneville 2. The first such variety, Fox, was released in 1948; Fox 4, the second, in 1958, and Deltapine 45 (Fox 4–4205) was placed on the market in the fall of 1963. The Delta & Pine Land Company breeders who selected and tested this variety were E. C. Ewing, E. C. Ewing, Jr., E. L. Gilbert, R. G. Hanson, W. W. Bradford, J. W. Langford, and Keith R. Jones.

From its Fox antecedents, it has earliness, short plant type, and some tolerance to fusarium wilt. Its lint percentage is approximately that of Deltapine 15 and it has given slightly higher yarn strengths than Deltapine Smooth Leaf or Fox 4. Significantly increased yield over other Deltapine varieties when grown where the verticillium wilt disease is a problem is its chief advantage. This has been most pronounced in the Memphis Territory. Tests of Deltapine 45 in the wilt areas of Arizona have shown only slight yield increases over Deltapine Smooth Leaf. It has more of a tendency to regrowth than Deltapine Smooth Leaf and the stem is not as erect.

This variety has been extensively tested by the Delta & Pine Land Company and by several of the state experiment stations. Its average performance at Scott for the 4-year period 1959–1962 is given in Table 1.

CORRECTION

Several errors were made in printing the article "A Summary of Linkage Studies in Cultivated Barley" by Robertson, Wiebe, Shands, and Hagberg on pages 33–43 of the January–February issue of *Crop Science*.

The first footnote in Tables 2, 3, 6, and 8 should read as follows: Number of F_2 plants and F_3 families.

The heading of Table 3 should indicate chromosome 2 instead of chromosome 1.

In Table 4 the generations for Brittle vs nonbrittle rachis, under Normal vs xantha seedlings, should be F_2, F_3.

The gene symbols in line 2, column 2, page 38 should be B^{mb} b^{mb}.

The symbols in line 3, column 1, page 39 should be *Gl4 gl4*.

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