Black Turtle Soup T-39 Beans

Black Turtle Soup T-39 tested as selection T-39 is a single plant selection from a field of Black Turtle Soup beans made by F. L. Smith and grown at Linden, California, in 1965. It was tested in New York at Cornell University by Dr. Don Wallace. It was released by the University of California, Davis.

The plant is of intermediate height, full and upright until pod fill. The stem is green except for a slight purple color on the hypocotyl. Leaf veins are purple, especially on the lower surface. Pods are green when immature, drying to a straw or purple color at harvest. Flowers are purple.

It is susceptible to common blight, Alpha, Beta and Delta Anthracnose, and white mold. T-39 is resistant to CMB viruses and rust.

The mature seed is shiny black, slightly indented at the hilum and angular at the ends from the close arrangement of seeds in the pod. Seeds are approximately 9.0, 6.5, and 5.0 mm in length, width, and thickness, respectively. Seed weight is approximately 16 grams per 100 seeds (2,750 seeds per pound).

Black Turtle Soup T-39 matures in approximately 100 days and is tolerant to Common Mosaic Virus. Yields of T-39 at Davis are lower than Black Turtle Soup, but slightly higher in New York tests. The acceptance of this selection is due to uniformity of plant characters, seed size and shape.

Common name: Beans, Field

Latin name: Phaseolus vulgaris

Variety name: Black Turtle Soup T-39 Beans

Origin and Breeding:
University of California, College of Agriculture, Department of Agronomy and Range Science, Davis, California

Presented by Francis L. Smith

(see attachments for development and origin)

Varietal Characteristics:

(see attachments)

Performance and Adaptation:

This variety has been in production in California since the 1960's..

(see attachments)

Seedstocks:
Foundation seed will be maintained and distributed by the Foundation Seed and Plant Materials Service, University of California, Davis. Foundation seed is produced from foundation seed since the original lines have been depleted. Periodic individual plant row increases will be grown to maintain plant and seed type and uniformity. Certification will be avalible under the supervision of the Calif. Crop Improvement Association.

Comments:
This variety had the name changed from Black Turtle Soup to Black Turtle Soup T-39 in 1981. This was approved by the Calif. Crop Improvement Association because the T-39 line was used in the original selection of this variety and the bean industry needed to differentiate this line from others.

from a cross of Century x Costa Rica. Production of certified seed limited to Canada.

Miranda—Very high yield. Very early. Very short. Very large, cream-colored seed. Developed by Cebeco-Handelsraad of The Netherlands. Variety protection pending.

Tara—High yield. Medium to early. Medium vine length. Medium size, cream-colored seed. Satisfactory cooking quality. Resistant to powdery mildew. Originated by Agriculture Canada, Morden, from crosses involving Century, Chancellor, and PI 162567. Licensed in 1978. Production of certified seed limited to Canada.

OTHER VARIETIES

Maple—Medium to low yield. Late. Long vined. Large, olive-colored seed with brown mottle and indistinct hilum. An excellent variety for pigeon feed use. Grown under contract when buyers offer a higher price than for recommended varieties.

Trapper—Medium to high yield. Medium to early. Medium vine length. Small, cream-colored seed. Good cooking quality. Originated by Agriculture Canada, Morden, from a cross of Chancellor x Weibull's 700. Licensed in 1970.

Table 13. Characteristics of field pea varieties

Variety	Seed yield/acre (pounds) Becker 1977-78, 80-81	Grand Rapids 1980-81	Crookston 1980-81	Weight/ 100 seeds (grams)	Seed protein[1] (percent)	Planting to bloom (days)	Planting to maturity (days)	Vine length (inches)
Century	1830	2219	2000	22.0	26.0	60	96	44
Paloma	2894	2972	2285	28.1	25.4	55	92	18
Lenca[2]	2051	2230	2259	18.1	25.6	58	93	37
Miranda[2]	2746	2239	2901	32.9	24.0	53	87	17
Tara	1968	2508	2225	19.2	24.6	60	94	40
Trapper	1919	2652	1773	13.5	25.8	58	93	37
LSD 5%	156	270	379					

[1]Oven-dry. [2]1981.

FIELD BEAN

Field bean is combine-harvested as mature, dry bean. It is used for human food and reaches the grocer's shelf in either canned or dry form.

There are more than 15 market classes of dry, edible bean, but only eight have been grown commercially in Minnesota. Minnesota's 1980 production amounted to 47 percent navy, 46 percent pinto, 2 percent red kidney, 2 percent small red, and 2 percent other classes. Varietal recommendations are confined to varieties within the navy, small white, pinto, dark red kidney, pink, black turtle soup, great northern, and small red classes. Other classes are grown successfully, but important differences among varieties within their classes have not yet been identified in our trials..

RECOMMENDED VARIETIES

Aurora small white—Medium yield. Medium late. Erect, viny bush. Very small, white seed. Resistant to rust and mosaic V-1, V-15. Tolerant of halo blight. Susceptible to common blight. Developed by New York Agricultural Experiment Station from a cross of Black Turtle Soup and Cornell 49-242. Released in 1973.

Emerson great northern—High yield. Medium late. Large, prostrate vine. Large, white seed. Resistant to V-1, V-1A mosaic. Tolerant to bacterial wilt and moderately tolerant to bacterial blight. Susceptible to white mold and rust. Developed by Nebraska Agricultural Experiment Station from a cross of GN 1140 and PI 165078. Released in 1971.

Fleetwood navy—High yield. Late. Medium-size bush. Small, white seed. Disease reactions similar to those of other navy varieties. Developed by Agriculture Canada (Harrow). Licensed in 1977.

Montcalm dark red kidney—Medium yield. Late. Large, erect bush. Very large, dark red seed. Resistant to V-1, V-15 mosaic, alpha anthracnose, and halo blight. Susceptible to white mold, beta and gamma anthracnose, and common and fuscous blights. Named and released by Michigan Agricultural Experiment Station in 1974.

Seafarer navy—Medium yield. Early. Erect bush. Small white seed. Resistant to anthracnose and mosaic V-1, V-1A, V-15. Susceptible to white mold and common and fuscous blights. Developed by Michigan Agricultural Experiment Station from crosses involving X-ray bush mutants, Emerson 847, Michelite, Trag 279-1, and Florida Belle. Released in 1967.

Snow-Bunting navy—Medium yield. Early. Medium-size bush. Small, white seed. Resistant to V-1 mosaic and alpha and beta anthracnose. Susceptible to white mold, V-15 mosaic, and common and fuscous blights. Developed by Clarence Muehlfeld (Bridgeport, MI) from crosses involving Gratiot, Sanilac, Snow-Flake, and experimental navy strains. Released in 1974.

T39 black turtle soup—Medium yield. Medium late. Erect, viny bush. Small, black seed. Resistant to rust and V-1, V-1A mosaic. Susceptible to V-15 mosaic and anthracnose. Selected from black turtle soup by California Agricultural Experiment Station.

UI-37 small red—Medium yield. Very early. Short, usually erect vine. Large, dark red seed. Resistant to V-1, V-1A mosaic. Susceptible to rust, white mold and blight. Developed by Idaho Agricultural Experiment Station from a cross of UI-56 great northern and UI-34 small red. Released in 1964. *Recommended only as a very early maturing field bean; other small red varieties yield more in a normal growing season.*

UI-114 pinto—High yield. Late. Large, prostrate vine. Tan and brown mottled seed. Resistant to mosaic V-1, V-1A, and V-15. Tolerant of halo blight and *Fusarium* root rot. Susceptible to white mold, rust, and common and fuscous blights. Developed by Idaho Agricultural Experiment Station from a cross of UI-111 pinto and J378 great northern. Released in 1965.

Up-Land navy—Medium yield. Medium maturity. Medium-size bush. Small, white seed. Resistant to V-1 mosaic and alpha anthracnose. Susceptible to V-15 mosaic, beta anthracnose, white mold, and common and fuscous blights. Developed by Clarence Muehlfeld (Bridgeport, MI) from a cross of Snow-Flake and a navy

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February 13, 1974

Mr. L. W. Kiesewetter
Lake & Lake, Inc.
P.O. Box 332
Canandaigua, N. Y. 14424

Dear Mr. Kiesewetter:

Enclosed is a copy of the 1973 yield trial data from Dr. Roger Sandsted's trials for the Black Turtle Soup lines. Note that the average yield of all lines was as good as that of BTS. Yield of T-39 may even be slightly better. The seed size of T-58 and T-138 is somewhat smaller than seeds of the other lines. Conida Black has comparable seed size and yield but the white pod lining stuck to many seeds.

The bean committee will be meeting on February 21 to discuss the release of the early red kidney which we are naming Redkloud. I believe Sherwin Terry will be present. We will make a tentative recommendation then. A final recommendation about using these new BTS lines will be made after consulting with Dr. Sandsted.

Sincerely,

Dan Wallace

D. H. Wallace
Professor

DHW/sd
cc: R. F. Sandsted
Sherwin Terry

Dry Bean Variety Trial 1973
(Data for Small blacks only)

Dept. Vegetable Crops
February 9, 1974

Variety	Seed Type	Plant Type	Ave. No. Plants/St.	Planting Date	Days to Maturity	Yield lbs/A.	H.I.	% Pick	Number Seeds/oz.	
Cornell's Agronomy Farm, Aurora										
BTS	Small Black	U. Vine	5.2	6-12	88	2676	58	10.2	141	Some Wrinkled Seed
T-39	"	"	4.8	"	86	3167	55	0.4	147	
T-58	"	"	4.5	"	88	2968	56	0.4	175	
T-138	"	"	4.4	"	88	2906	50	0.7	174	
Conida Black	"	"	5.0	"	88	2895	54	1.2	141	
Cornell's Tailby Farm, Vauna										
BTS	Small Black	U. Vine	4.3	6-20	80	1828	62	5.0	148	
T-39	"	"	3.9	"	80	1990	53	2.6	153	
T-58	"	"	3.3	"	80	2134	56	0.7	173	
T-138	"	"	4.0	"	80	1977	56	0.6	160	
Conida Black	"	"	4.6	"	88	1900	56	1.0	150	
Tarabocca Farm, West Henrietta										
BTS	Small Black	U. Vine	4.8	6-14	86	1538	58	4.0	152	Some Wrinkled Seed
T-39	"	"	5.0	"	77	1315	52	0.6	155	
T-58	"	"	5.0	"	77	1282	56	2.8	180	Some Wrinkled and Mottled
T-138	"	"	4.4	"	77	1236	50	1.8	162	
Conida Black	"	"	4.8	"	86	1480	56	0.5	156	
Jennejohn Farm, Webster										
BTS	Small Black	U. Vine	4.6	6-28	76	755	54	3.0	161	
T-39	"	"	3.8	"	76	740	48	0.6	196	
T-58	"	"	3.6	"	76	701	48	0.9	208	
T-138	"	"	3.2	"	76	800	40	0.9	207	
Conida Black	"	"	4.4	"	76	696	44	1.0	196	
Average of the 4 Farms										
BTS		U. Vine	4.7		82	1699	58	5.6	150	
T-39		"	4.4		80	1803	52	1.0	163	
T-58		"	4.1		80	1771	54	1.2	184	
T-138		"	4.0		80	1704	49	1.0	176	
Conida Black		"	4.7		84	1747	52	0.9	160	

Plot Technique: Single row 10-foot plots of each variety were replicated 2 times for each farm. All were spaced 36 inches except at Aurora which was spaced 30 inches. A combination of Eptam (½ gal/acre) and Treflan (1 pt/acre) was incorporated at most of the locations just before planting. Fertilizer was sanded by a planter which also marked the rows. The seed was planted at the rate of 6 seeds per foot of row.

Comments: BTS – Some plots had variable color. Some seed was reddish in color
Conida Black – White seed pod lining stuck to many seeds from several plots even after cleaning.
T-58 A noticeably smaller than other variety