

DARK RED KIDNEY BEANS

MONTCALM

Montcalm was released in 1973. It represents significant improvement over Charlevoix, and a major breakthrough for Michigan kidney bean producers, in its tolerance to halo bacterial blight and common mosaic virus. Unlike Charlevoix, Montcalm is susceptible to two races (beta and gamma) of anthracnose. This new variety has the same maturity, yield and canning quality of Charlevoix, but because of its resistance to halo blight it overcomes one of the presently most serious diseases affecting colored bean production in Michigan. Montcalm has a white flower color. Its seeds have a luster to their appearance not present in that of Charlevoix.

Variety Descriptions for Three Michigan Kidney Bean Varieties

Charlevoix DRK

Charlevoix is a bush type dark red kidney bean variety developed and released jointly by the Michigan Agricultural Experiment Station and the U.S.D.A. It is similar to the common dark red kidney bean in plant type and adaptation and has a pale lavender blossom color. Charlevoix is resistant to races α and β of bean anthracnose found in Michigan but is susceptible to all known races of common mosaic and halo and common bacterial blights. It is about 10 days earlier in maturity (90-100 days) than California Dark Red Kidney in Michigan.


Montcalm DRK

Montcalm is similar in appearance, agronomic characteristics, and maturity to Charlevoix, but has an almost-white blossom color compared to the pale lavender blossom of Charlevoix. Unlike Charlevoix, it is tolerant to halo blight and races V_1 and V_{15} of common mosaic virus, but is similar in its susceptibility to common bacterial blight. It is resistant to α but susceptible to β race of anthracnose.

The seed of Montcalm has a more lustrous red appearance to that of Charlevoix because of its higher content of bright red vs. brown pigmentation.

Mecosta LRK

Mecosta is a bush type light red kidney bean variety, similar in appearance and agronomic characteristics to California or Idaho light red kidney varieties. Like Montcalm, it has almost-white blossoms and is tolerant to halo blight, but susceptible to common blight. Mecosta also has good resistance to races V_1 and V_{15} of bean mosaic virus. It is resistant to α but susceptible to β race of anthracnose.



M.W. Adams, Professor
Crop and Soil Sciences Department

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Montcalm is a dark red kidney bean with a bush type growth habit that matures in 95-105 days. It has white flowers, and good lodging resistance. Montcalm has a seed size of 850 seeds per pound and an excellent seed type with good canning characteristics and salad quality. Montcalm kidney beans are a very popular dark red kidney bean variety in Michigan.

	State Average 1988	State Average 1987	Days to Maturity
Montcalm	22.6 cwt/acre	22.7 cwt/acre	100

Information taken from the Michigan Dry Edible Bean Production Research Advisory Board variety performance report.

No other dark red kidney bean varieties were tested in 1987 or 1988.

Montcalm dark red kidney beans are resistant to Halo Blight, Common Bean Mosaic, and Alpha Anthracnose, while being tolerant to air pollution and rust. Montcalm is susceptible to root rot, white mold, and common blight, as are all dry bean varieties.

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MONTCALM

Montcalm Variety Characteristics

Descriptors

Growth habit	Bush
Maturity	95-105 days
Flower color	White
Seed color	Dark red

Disease resistance

Halo blight	Resistance
Common bean mosaic virus	Resistance
Alpha anthracnose	Resistance
Beta, delta anthracnose	Susceptible
Rust	Tolerant
Air pollution	Tolerant
Common blight	Susceptible
Root rot	Susceptible
White mold	Susceptible
Angular leaf spot	Susceptible



Michigan Crop Improvement Association
 P.O. Box 21008 • Lansing, MI 48909
 Office (517) 355-7438 • FAX (517) 355-4554

MICHIGAN'S CERTIFIED DRY BEANS

Variety	Type	Maturity	Growth Habit	No. of Seeds/lb.	Lodging Resistance	Flower Color	Common & Fuscous Blight	Halo Blight	CBMV ¹	CBMV ²	ANTHRACNOSE alpha beta gamma delta	Rust	Air Pollutio	Root Rot	White Mold	Released From	Cert. Seed Available In
Bunsi	Navy	M	Bush		F	W	S	R	R	R	S S S	R	T	S	S	ICA	1984
*C-20	Navy	F	Upright Short Vine		VG	W	S	R	R	R	S R R	R	T	S	S	Canada	1976
Fleetwood	Navy	F	Bush		F	W	S	R	R	R	R R S	S	T	S	S	Canada	1976
Mayflower	Navy	M	Upright Short Vine		G	W	S	R	R	R	S S S	R	T	S	S	MSU	1987
Seafarer	Navy	E	Bush		G	W	S	R	R	R	R R S	S	S	S	S	MSU	1967
Isabella	Lt. Red Kidney	E	Bush		G	W	S	R	R	R	S S S	T	T	S	S	MSU	1984
Montcalm	Dk. Red Kidney	M	Bush		F	W	S	R	R	R	R S S	T	T	S	S	MSU	1974

*Protected variety or applied for

E — Early
M — Medium
F — Full Season

F — Fair
G — Good
VG — Very Good

W — White
P — Purple

S — Susceptible
R — Resistant
T — Tolerant
ND — Not Determined

OTHER VARIETIES

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.

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)			Weight/ 100 seeds (grams)	Seed protein ¹ (percent)	Planting to		Vine length (inches)
	Becker 1977-78, 80-81	Grand Rapids 1980-81	Crookston 1980-81			bloom (days)	maturity (days)	
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					

¹Oven-dry. ²1981.

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