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Isabella Kidney Beans

Michigan State University Extension Service

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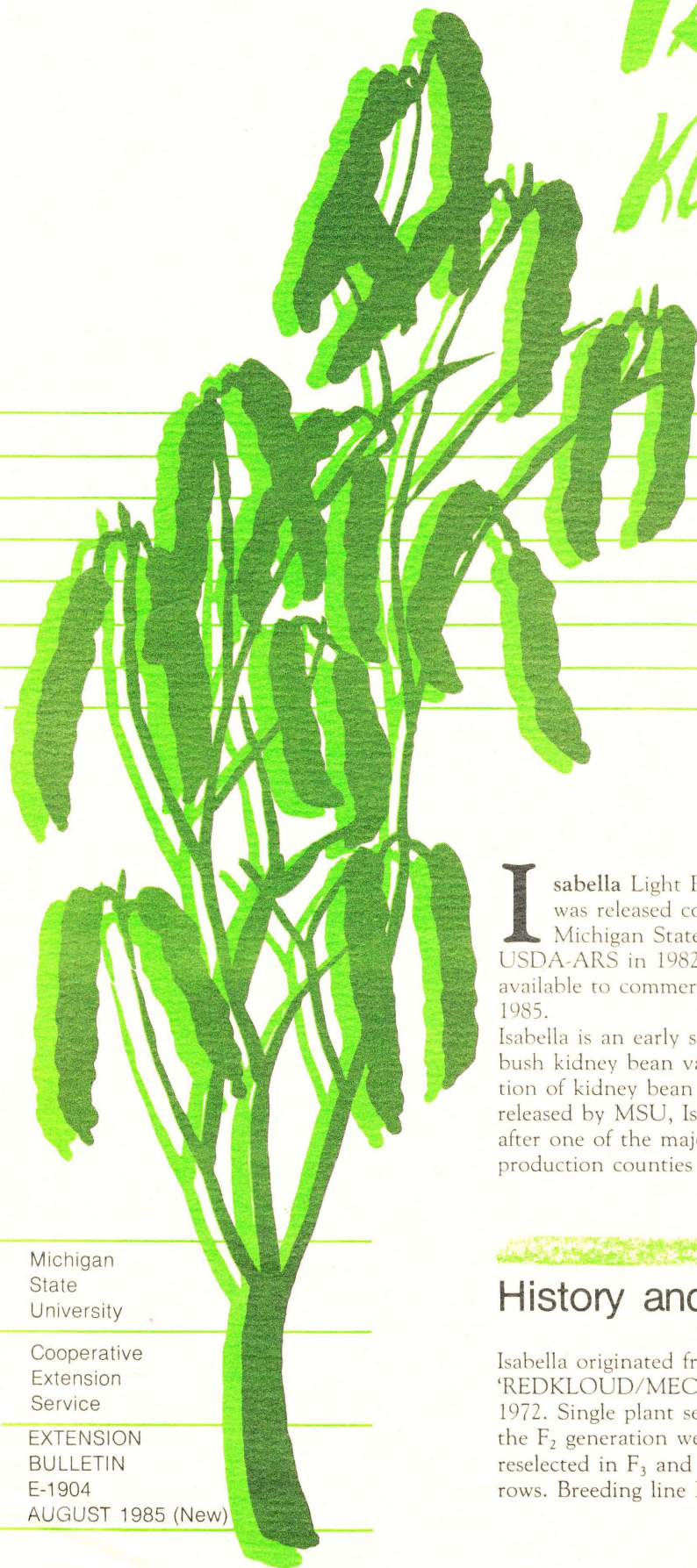
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# Isabella

## Kidney Beans



- Upright bush growth habit
- Yields of 25 cwt per acre under irrigation
- Early season maturity
- Excellent seed and canning quality
- Complete mosaic virus resistance
- Uniform maturity and dry down
- Good lodging resistance

**I**sabella Light Red Kidney Bean was released cooperatively by Michigan State University and USDA-ARS in 1982, and was made available to commercial growers in 1985.

Isabella is an early season, upright-bush kidney bean variety. In the tradition of kidney bean varieties previously released by MSU, Isabella was named after one of the major kidney bean production counties in Michigan.

Isabella was identified as an F<sub>5</sub> mass selected row in 1976 and was entered into preliminary yield trials in 1977. MSU #70688 was yield-tested over a five year period, prior to its release as Isabella in 1982.

### Yield Performance and Maturity

Isabella is an early season variety maturing in 84-89 days, or 2 days later than Sacramento, the standard early light red kidney bean variety. It has exceeded yields of Sacramento by 2 cwt per acre over 5 years and 25 locations in Michigan. Isabella has been equivalent in yield to the light red kidney bean varieties, Ruddy and Redcloud, which mature from two to four days later.

### History and Pedigree

Isabella originated from the cross 'REDKLOUD/MECOSTA' made in 1972. Single plant selections made in the F<sub>2</sub> generation were advanced and reselected in F<sub>3</sub> and F<sub>4</sub> generation rows. Breeding line MSU #70688 was

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## Plant Architecture and Agronomy

Isabella exhibits a type I, upright-determinate plant habit; plants average 45 cm tall (about 5 cm taller than Sacramento), are erect and upright in profile with good lodging resistance. The plants have a vigorous root system which contributes to lodging resistance. The variety has a high harvest index (ratio of seed weight to plant weight) typical of many early maturing kidney bean varieties. This harvest index efficiency produces a high seed yield in a short season.

## Disease Resistance

Isabella carries a combination of the single dominant, hypersensitive I-gene and recessive genes for resistance to specific strains of bean common mosaic virus (BCMV). The combined resis-

tance sources give Isabella protection against both the common and necrotic strains of BCMV present in Michigan. Isabella is resistant to the alpha race of anthracnose—the predominant race in Michigan. It is highly resistant to the indigenous rust races prevalent in Michigan and exhibits moderate tolerance to Michigan isolates of halo blight. Like all U.S. kidney bean varieties, Isabella is susceptible to the Michigan isolates of angular leaf spot.

## Seed and Canning Quality

Isabella has a kidney shaped, light red seed averaging 50-52 g/100 seeds, and is therefore within the acceptable size and color range of standard kidney bean varieties. Dry seed color, as measured by a Hunter color difference meter, varies by season and location, ranging from a low of 29.1 to 32.0 on the L scale. However, its color has always been stable and well within an acceptable range. Canning tests indicate that Isabella produces a cooked product similar to acceptable kidney bean varieties.

## Plant Variety Protection

Variety protection has been applied for under the Plant Variety Protection

Act, Public Law 91-577, with the option that Isabella may be sold for seed by name only as a class of certified seed. This provision is expected to better maintain varietal identity and help control serious seedborne diseases such as common and halo blight.

## Seed Availability

Breeder seed and foundation seed is maintained in dry, disease-free areas of the Western U.S. by the Michigan Foundation Seed Association in cooperation with the Michigan Agricultural Experiment Station. Most certified seed is produced in Michigan although some may also be available from out-of-state.

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