

# Strawberry Varieties for Michigan

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## Selecting the Variety

Successful strawberry culture requires selection of adapted varieties. Nursery catalogues often list many strawberry varieties, but not all are adapted to Michigan. The variety descriptions frequently indicate where the varieties were bred, with many originating in different parts of the country.

Knowing where a variety was bred is important for several reasons. Climate greatly influences performance; each variety usually performs best in the region where it was developed or in areas with a similar environment. The interrelation of temperature and length of daylight largely determines how well a variety adapts to a particular area. Environment affects productivity of plants, fruit size, flavor, firmness and development of diseases. Generally, varieties grown where there are sunny days and cool nights have better flavor than those grown under cloudy, humid days and warm nights. Most varieties produce firmer fruit in cool temperatures.

Strawberry varieties developed in northern latitudes of the U.S.—where days are long and temperatures moderate in summer and cold in winter—produce high yields of firm berries. Varieties bred for southern states, by contrast, perform best where the days are short and warm during the winter harvest season and hot in summer. Southern varieties, when grown in Michigan, are strongly vegetative and usually produce many plants but few fruit, while northern varieties may die when grown in the far South. Likewise, varieties developed on the Pacific coast are generally disappointing when grown in Michigan because of the dissimilar climates, and western varieties are especially prone to leaf diseases.

## Variety Trials in Michigan

Strawberry varieties suggested for Michigan are evaluated in varietal trials conducted by the Michigan State University Agricultural Experiment Station. Most variety tests have been conducted at the Sodus Horticultural Farm in Southwestern Michigan, although some were conducted at the

Northwest Michigan Research Station near Traverse City. The fruit characteristics of varieties grown in Michigan are listed in Table 1.

## RECOMMENDATIONS

No variety is perfect in all respects—disease resistance (see Table 2), appearance, firmness, color, flavor and season of maturity. Plant primarily varieties that have been grown successfully in your area. Other varieties that may appear promising should be grown and evaluated only on a trial basis. Some varieties are not consistent, and weaknesses may appear which were not detected in preliminary trials. Individual commercial growers and home gardeners have personal preferences, but the following varieties are considered most adapted for Michigan conditions.

### Early Season

*Earliglow* appears to be the most consistent early variety. Berries are glossy, deep red, firm, attractive and of acceptable eating quality. Plants are vigorous, form a good matted row and offer resistance to Red Stele and Verticillium wilt.

*Stoptlight* can also be productive, but yields have been erratic from year to year. Plants are not resistant to Red Stele, and berries are soft.

*Sunrise* is resistant to Red Stele and Verticillium wilt, but fruit is soft with only fair flavor.

### Midseason

Midseason varieties represent most of Michigan's strawberry acreage. The primary varieties are *Midway*, *Redchief* and *Guardian*. Two strains of *Midway* known as *Early Midway* and *Midway* have been the most widely planted varieties in Michigan in recent years. The early strain, *Early Midway*, ripens several days before the other. They are similar but not identical in foliage and berry characteristics. *Midway* has a long harvest season and a record of consistently good yields of medium to large berries of fine quality for either fresh use or freezing. Plants



are susceptible to several root diseases and need protection against winter injury.

*Guardian* has vigorous plants that produce a moderate number of runners. It is resistant to most leaf diseases, Red Stele and Verticillium wilt. Berries are firm, large with a glossy surface and bright red but sometimes have a green tip that detracts from their appearance. Flesh is firm but light in color, which may not be attractive in a frozen pack. Productivity, vigor and resistance to diseases are definite assets of this variety. However, the rough, seedy appearance of the fruit may be objectionable.

*Redchief* is an excellent all-purpose, midseason variety that is very productive. Plants have moderate vigor and do not produce as many runners as some varieties. It is resistant to Red Stele and moderately resistant to Verticillium wilt. Berries are attractive, cone-shaped, medium to large, firm, uniformly glossy red and of high dessert quality. Berries are difficult to cap, and the primaries may split some years, possibly a result of frost injury to the blossoms.

*Raritan* and *Holiday* have the potential to produce high yields, but can be inconsistent after the first year of production. They are also susceptible to Red

**Table 1—Fruit characteristics of strawberry varieties observed in Michigan.**

Variety	Season	Yield	Size	Flesh Firmness	Skin Firmness	Dessert Quality	Processing Quality
<i>Atlas</i>	Midseason	Moderate	Large	Firm	Firm	Good	Poor
<i>Badgerbelle</i>	Late	High	Large	Soft	Soft	Fair	Fair
<i>Badgerglo</i>	Late	Low	Large	Medium	Medium	Good	Unknown
<i>Bounty</i>	Late	High	Large	Medium	Medium	Good	Good
<i>Cardinal</i>	Midseason	Low	Large	Firm	Firm	Fair	Good
<i>Catskill</i>	Midseason	Low	Large	Soft	Soft	Good	Fair
<i>Comet</i>	Midseason	Moderate	Medium	Firm	Firm	Good	Good
<i>Cyclone</i>	Early	Moderate	Small	Soft	Soft	Very Good	Good
<i>Darrow</i>	Early	Moderate	Medium	Firm	Firm	Good	Very Good
<i>Delite</i>	Late	High	Large	Medium	Firm	Fair	Unknown
<i>Earlidawn</i>	Early	Moderate	Large	Medium	Medium	Fair	Very Good
<i>Earliglow</i>	Early	Moderate to High	Medium to Large	Firm	Firm	Very Good	Very Good
<i>Fletcher</i>	Late	Low	Small	Medium	Soft	Very Good	Good
<i>Gem</i>	Everbearer	Moderate	Small	Soft	Soft	Fair	Fair
<i>Guardian</i>	Midseason	High to Moderate	Large	Firm	Firm	Good	Fair
<i>Holiday</i>	Midseason	High to Moderate	Large	Very Firm	Very Firm	Good	Good
<i>Marlate</i>	Late	Moderate	Large	Firm	Firm	Good	Unknown
<i>Midway</i>	Midseason	High	Medium	Firm	Firm	Good	Very Good
<i>Ozark Beauty</i>	Everbearer	Moderate	Medium	Medium	Medium	Very Good	Good
<i>Raritan</i>	Midseason	High	Medium	Firm	Medium	Fair	Fair
<i>Redchief</i>	Midseason	High	Medium	Firm	Firm	Good	Very Good
<i>Redcoat</i>	Midseason	Moderate to Low	Small	Medium	Medium	Good	Fair
<i>Redglow</i>	Midseason	Moderate	Medium to Large	Firm	Firm	Good	Very Good
<i>Robinson</i>	Midseason	Low	Large	Soft	Soft	Fair	Poor
<i>Scarlet</i>	Midseason	Moderate to High	Large	Firm	Firm	Fair	Poor
<i>Sparkle</i>	Midseason	Low	Medium	Soft	Soft	Very Good	Very Good
<i>Stoplight</i>	Early	High	Medium	Soft	Medium	Good	Very Good
<i>Sunrise</i>	Early	Low	Small	Soft	Medium	Fair	Fair
<i>Surecrop</i>	Midseason	Low	Medium	Firm	Medium	Good	Good
<i>Tenn. Beauty</i>	Midseason	Low	Small	Firm	Firm	Good	Good
<i>Veestar</i>	Late	Low	Small	Medium	Medium	Good	Fair
<i>Vesper</i>	Late	High to Low	Large	Soft	Soft	Fair	Poor
<i>Vibrant</i>	Midseason	Low	Small	Firm	Firm	Fair	Good



Stele and Verticillium wilt. *Canoga*, *Honeoye*, *Allstar*, *Scarlet* and *Scott* are new, promising midseason varieties. However, since they have not been sufficiently tested, their future cannot be predicted confidently.

### Late Season

*Delite* produces consistently high yields of fair-quality berries. The plant is very vigorous and produces runners so large that removal of late-form plants may be necessary to prevent overcrowding. The variety is productive in narrow, matted rows.

**Table 2—Plant disease resistance of strawberry varieties.<sup>1</sup>**

Variety	Leaf Spot	Leaf Scorch	Red Stele	Verticillium Wilt
Atlas	R*	R	S	I
Badgerbelle	R	S	S	U
Badgerglo	U	S	S	S
Bounty	R	I	S	U
Cardinal	R	R	S	S
Catskill	S	R	S	R
Comet	R	R	S	U
Cyclone	R	U	S	U
Darrow	I	I	R	I
Delite	R	R	R	R
Earlidawn	S	I	S	S
Earliglow	R	R	R	R
Fletcher	R	R	S	S
Gem	S	R	S	U
Guardian	R	R	R	R
Holiday	R	R	S	I
Marlate	R	R	S	S
Midway	S	S	R	I
Ozark Beauty	R	R	S	S
Raritan	S	S	S	S
Redchief	R	R	R	I
Redcoat	U	U	S	U
Redglow	S	I	R	S
Robinson	I	S	S	R
Scarlet	R	R	U	R
Sparkle	S	I	R	S
Stoplight	I	I	S	U
Sunrise	S	R	R	R
Surecrop	R	R	R	R
Tenn. Beauty	S	S	S	U
Veestar	U	U	U	R
Vesper	S	S	S	S
Vibrant	U	R	U	S

<sup>1</sup>Source: Strawberry Varieties in the United States. Farmers Bulletin Number 1043. U.S. Department of Agriculture.

\*I - Intermediate; R - Resistant; S - Susceptible; U - Unknown.

Berries are cone-shaped, medium to large in size, glossy, bright red and moderately firm with pink flesh. Plants are resistant to Red Stele and Verticillium wilt.

*Marlate* produces only moderate yields, but its berries are large, firm, attractive and of high quality. Flesh is light colored. *Bounty* a relatively new cultivar, has yielded well in limited trials but needs further testing.

### Everbearing and Day-neutral

*Gem* (*Superfection*) is an old, reliable variety. Plants are hardy and productive. Berries are light red, medium in size, soft and very acid when produced in warm weather but relatively sweet and firm in cool weather.

*Ozark Beauty* is generally superior to other everbearing varieties. Plants grow vigorously and runner moderately well. Fruit is of medium size, wedge shaped, glossy and dark red with prominent yellow seeds.

Two promising new USDA releases are *Tribute* and *Tristar*. They combine Red Stele and Verticillium wilt resistance with improved fruit yield and size. However, they have not been adequately evaluated in Michigan to be recommended for extensive planting.

Everbearing strawberries produce a crop of fruit in June and then more flowers and fruit in late summer or early fall. Older varieties such as *Gem*, that do not readily produce runners, are grown in the double or triple row system of culture with plants spaced one foot apart in the row and between rows, with a two-foot pathway between every second or third row. *Ozark Beauty*, a variety that readily produces runner plants, is also adapted to matted-row culture.

Everbearers can also be grown in containers on a patio, along borders in the garden, or on a terraced pyramid. The plants are attractive for their foliage as well as their fruit.

### Obtaining Planting Stock

Obtain strawberry plants from a reliable nursery. Order early to assure receiving desired varieties and quantities. Specify date of shipment so plants arrive in ample time for early planting.

If strawberry plants cannot be planted when received from the nursery, and cold storage facilities are not available, heel-in the plants in a well-drained location, protected from both sun and wind. To heel-in plants, open the bundles and place the plants in a V-shaped trench deep enough to spread out the roots when the crowns are at ground level. Pack soil firmly about the roots and keep the plants heeled-in until wanted for field planting.



If plants arrive in a dormant condition they can be held for several days in a refrigerator at 30 to 40°F. Wrap the roots in loosely closed polyethylene film to prevent them from drying out while in the refrigerator. Do not store the plants in areas containing ripe fruit which may be producing ethylene.

Use only virus-free plants. Virus-free strawberry plants grow more vigorously and tend to produce large fruit and greater yields than plants that are not virus-free; furthermore, they are more likely to be productive under adverse conditions.

#### Determining Plants Per Acre

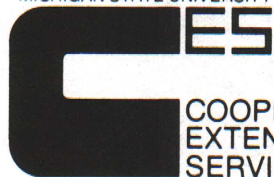
Plants required per acre depends upon the spacing system (Table 3). Plants are generally set 18 to 24 inches apart in the row in rows 3 to 4 feet apart (5,445 plants per acre). Consult Extension Bulletin E-682 for further information.

**Table 3—Number of plants needed to plant an acre at various spacings.**

Plant Spacing (feet)		Plants per acre
In row	Between rows	
1½	3	9,680*
1½	3½	8,296
1½	4	7,260
2	3	7,260
2	3½	6,223
2	4	5,445
2½	3	5,810
2½	3½	4,980
2½	4	4,356

\*Can be calculated by multiplying plant spacing in the row by spacing between the row and dividing into 43,560 (the number of square feet in an acre).

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