OREGON VEGETABLE Digest

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Vegetable Varieties Recommended for 1967

Cabbage Varieties Tested at OSU

A cabbage variety trial in 1966 was planted at Corvallis to compare a number of European and Japanese varieties with some domestic varieties for which seed was on hand. Notes were taken from two 50-foot plots of each variety, with varying numbers of heads observed.

Rows were 38 inches apart; the plants were spaced 18 inches; they were seeded 4-25-66 and transplanted on 6-10-66. A band application of 450 pounds 8-24-8 was used, and a sidedress of 100 pounds per acre of NH_4NO_3 was made after transplanting. A sidedressing of Di-Syston was the principal insect control. After the transplants were established, irrigation was applied about every 10 days. Growth was vigorous.

All scores shown in the tables were made on a 1 to 5 basis, the higher scores being the most desirable. Weights are the averages of five weighed heads; other measurements are estimates based on five or more cut heads. Evaluation of kraut possibilities was arbitrarily made on

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In This Issue . . .

The Horticulture Department prepares every two years a list of vegetable varieties adapted to various areas of Oregon. Old and new varieties are included, with comments on some of the new ones. The list should not be considered exhaustive; there are numerous varieties of most of our common vegetable crops, and in many instances there are several strains of a given variety.

Caution is suggested in changing to new varieties without clear, compelling reasons. It is usually best to first plant small trial plots or acreage, and to repeat the tests for three years or more. Varieties will vary in behavior from year to year and from location to location because many environmental factors such as soil, diseases, insects, temperature (night and day), solar radiation (intensity and length of day), rainfall, irrigation, various chemicals, and impacts of machinery interact with varying heredity to give a range of responses among varieties and strains.

When a strain of a given variety appears especially promising, it may be well to purchase seed a year or two in advance, indicating to the seedsman the particular stock desired.

It is difficult for any one person to keep up with new variety developments in every crop. Therefore, it may be well to seek information from several sources. At Oregon State University new, promising variety developments in major crops are usually noted and tests run; with other crops, suggestions are based only on experience elsewhere. Sources of information may be experienced growers, county agents, field men, seedsmen's representatives, catalogues and descriptive lists, extension specialists, and vegetable breeders at OSU.

Asparagus. Mary Washington and California 500.

Beans, green bush. Tendercrop, mottle-seeded, is now well established, especially for freezing. Gallatin

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Vegetable Varieties . . .

50 is an off-white seeded version of Tendercrop. Executive and Tenderette are also of Tendercrop type.

OSU 949 and 2065 have been derived from Blue Lake. Seeds for pilot trial acreages have been made available. Pods of these lines approach Blue Lake more closely than those of any other bush bean, but habits and yields are only fair.

Rogers 206 has shown some promise. Care should be exercised in harvesting it at prime quality stage; it is not a large, fleshy type. 274 of Asgrow is somewhat late and heavy foliated, with only fair concentration of set; it is a fleshy type.

No new releases of bush beans derived from Blue Lake are available in large seed quantities in 1967.

Beans, green pole. For processing: FM-1K, Prime Pack (considered essentially the original FM-1 bean), FM-1L, and Asgrow 231. For eastern Oregon areas subject to curly top virus damage: Columbia, developed by the late B. F. Dana; this bean is essentially of Blue Lake quality. Other favorites of Oregon gardeners: Oregon Giant and Kentucky Wonder. Romano is an "old" flat-pod bean which is gaining prominence as a distinct processed product.

Beans, wax bush. Puregold and Earligold. A few OSU wax bush beans of complex parentage are available for processor small plot work. For eastern Oregon curly top areas, we suggest contacting Dr. Douglas Burke, Irrigation Experiment Station, Prosser, Washington, and Dr. L. L. Dean, Bean Disease Laboratory, Twin Falls, Idaho.

Beans, lima pole. Christmas and Oregon (a white "runner" bean of scarlet runner type).

Beans, lima bush. Large pod: Fordhook 242 and Concentrated Fordhook. Small pod: Clark's Bush, Early Thorogreen, Thaxter (mildew-resistant), and Henderson.

Broccoli. Waltham 29, Northwest Waltham, and Purple Head (purple florets). Spartan Early is smaller than the Walthams but is suited for home use. Italian Green Sprouting is inferior to the varieties listed above, but it may be all that is available in some cases.

Beets. For processing: Detroit Dark Red (mildew-resistant type). For home gardens: Green Top Bunching and Seneca Detroit.

Brussels sprouts. Jade Cross (early F_1 hybrid) is uniform in maturity and plant form; attractive to aphids. The sprouts are closely spaced and pressed together along the stem, and there is some tendency for sprouts at base of stem to become infected with soft rot if harvest is delayed. Fancy Most and Catskill are suited for home and market use.

Cabbage. Early and midseason: Golden Acre, Early Jersey Wakefield, Green Acre, Marion Market, Copenhagen Market, Emerald Cross, Bonanza, and Market Topper. Late: Danish Ballhead and Oregon Ballhead. Small: Babyhead. Savoy: Chieftan and Savoy King. Use strain resistant to fusarium yellows if this disease has been a problem.

Carrot. For processing: Red Cored Chantenay, Royal Chantenay, and Nantes. For the gardener: Red Cored Chantenay will hold up longer in the fall without as much cracking and rotting as Nantes. Market garden types: Imperator, Gold Spike, Gold Pak, Chanticleer, and Morse Bunching. Hybrid carrots hold promise for the future. W-5, a new synthetic from Wisconsin, has excellent raw and frozen color and is worthy of trial; color of this carrot when canned is questionable.

Cauliflower. Snowball X, Snowball Y, Early Snowball, and Snowdrift. For winter or spring types, there are a range of varieties from December to April.

Celery. Utah (there are many good strains of this green, long petiole type).

Cantaloupe. Spear, Pike, Oregon Delicious, Hales Best, and Hearts of Gold are somewhat late in western Oregon. They perform best when transplanted to the field, or when plastic or paper mulches are used. In some warm areas of eastern Oregon the later-maturing Crenshaw can be grown. Fusarium-resistant varieties (late maturing): Iroquois, Harvest Queen, Delicious 51, and Resistant Honey Rock. A new OSU golden-rind, slip-type early honeydew is available for small trial plantings. Gold Star, Harper Hybrid, and Maine Rock are new high-quality Eastern varieties which do well in western Oregon.

Cucumber. For pickling: MR17 (mosaic-resistant), SMR-15 (scab-mosaic-resistant), SMR-58, Spartan 27, Spartan Dawn, and other new disease-resistant varie-

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Vegetable Varieties . . .

ties. For slicing: Burpee Hybrid, Sensation Hybrid, and Surecrop Hybrid. These F_1 hybrids are usually very productive; they also do well in greenhouse production. M & M Hybrid has looked especially good in greenhouses.

Corn, sweet. Golden Cross Bantam and Jubilee, the two most important commercial processing hybrids, are both excellent for garden and market use. Jubilee will usually outyield Golden Cross. Also for home and market: Early—North Star and Golden Beauty; midseason to late—Seneca Golden, Sugar King, and FM-Cross. Tokay Sugar (early) and Silver Queen (late) are high-quality white varieties well liked by home gardeners.

Eggplant. Black Magic (early F_1 hybrid), New Hampshire, Black Beauty, and Burpee Hybrid.

Lettuce, head. 456, Phoenix, Pennlake, and various Great Lakes strains.

Lettuce, leaf. Oak Leaf, Salad Bowl, and Ruby.

Lettuce, butterhead. Bibb, Summer Bibb, and Buttercrunch.

Onion. Danvers Yellow Globe (western Oregon), hybrid Surprise, and Sweet Spanish (eastern Oregon). In a few years, pink-root-resistant hybrids should be available; mildew resistance may be several years away.

Interest in small white pearl (pickling) onions warrants a review of white, short-day types that are spherical in shape and have a very thin outer scale. Barletta types such as White Pearl, White Creole, and FM-L-281 are promising when seeded early and thickly. OSU 11, a deep-globed semi-Spanish-Danvers, is available for trial (small packets).

Peas. Canners: Perfection types and Alaska (small early). Freezers: Freezer 69, Frosty, Dark Green Perfection, Midfreezer, and Jade. Market and garden: Alderman (tall), Little Marvel (dwarf), Thomas Laxton (medium tall), Progress 9, and Icer 95. Enation mosaic-resistant Perfected Freezer 60 may be available for freezing and garden.

Pepper: Yolo Wonder (mosaic-resistant, somewhat late), Early Calwonder, Pennwonder, and Idabelle. For small fruit and very early: Vinedale.

Pumpkin. New England Pie, Small Sugar, Jack O'Lantern, Connecticut Field, Dickinson; Big Max for exhibition.

Summer squash. Zucchini, Caserta, Yellow Straightneck, Yellow Crookneck, and White Scallop. Burpee Hybrid, Storr's Green, Seneca Zucchini, and Zucchini Hybrid are exceptionally productive green varieties which are easy to pick. Blackini has open foliage and is high in quality but less productive. Seneca Butterbar is a yellow straightneck type of exceptional quality.

Winter squash. Hubbard (many types well adapted), Golden Delicious, Banana, Uconn (bush, small-fruited Table Queen), Table Queen, Sweet Meat, Buttercup, Marblehead, Butternut, and Silver Bell. Butternut and Buttercup are outstanding for home use and are easily matured in western Oregon; they are of convenient size and high in quality, but they are not adapted to long storage.

Rhubarb. Valentine, McDonald, and Riverside Giant. A few OSU hybrids are available for limited trial.

Tomato. Early determinate, nonstaking types: Victor, Bounty, Gem, Pennheart, and new OSU releases, Willamette and Medford. Medium early determinate: Wasatch, Pritchard, and Early Pak 7. Good hybrids of medium maturity, indeterminate, stake well: Moreton Hybrid, Big Boy Hybrid, Big Early Hybrid, and Burpee Hybrid. Early indeterminate: Valiant, Faribo, and Hybrid E. Indeterminate, nonhybrid, medium early, stake well: Queens, Stokesdale, and Red Jacket (potato leaf). In the next few years many new varieties can be expected. Campbell 135 is rather crack-resistant but somewhat late here. Ace is large-fruited and of good quality, but somewhat late. Immuna Prior Beta is small-fruited, with unusual ability to set fruit at low temperatures. The recent OSU release, Large German Cherry, is worthy of trial. Golden Boy has a large mild yellow fruit.

Watermelon. Klondike (many strains), New Hampshire Midget (early Ice Box, only fair quality, very small), and Charleston Gray (fusarium-resistant, good shipper, relatively late maturing).

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Cabbage Varieties . . . (Continued from page 1)

the basis of all factors and on the basis of discussions with two commercial kraut-packing companies.

The test was placed in an area essentially free of club root and cabbage yellows, so that readings for resistance or tolerance to these diseases were not possible. The notes indicate a wide range of characteristics in the various varieties. Several appear to have promise for possible kraut use; highest in rating for this purpose were Lange DIJKER, No. 19, Langen DIJK 937, and Bruns-vigor. The Lange DIJKER was especially outstanding in appearance.

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Evaluation of Characteristics of Cabbage Varieties, 1966

Variety	Flavor	Avg. weight	Kraut use	Tipburn	Notes
		Lbs.			
NK 901	Sweet	13.25	Poor	Slight	Somewhat coarse, bad axillary heads inside and at base of plant.
DB Shortstem	Sweet	12.3	Fair		Somewhat flattened; rich mild flavor.
Poepe Witte #28	Mild, sl. flat	17.24	Possible		Splitting not rapid; bad soft rot problem when mature; high yielding early.
Wisc. Hollander #8	Mild	14.2	Fair	Some	Tipburn noticed only in outer leaves; some bad stems (large).
Bruns-vigor	Sl. sharp	15.4	Yes	Some	Good kraut interior; distinctly flattened.
Marion Market	Sl. sweet, sl. sharp	15.2	No		Does not hold well; color not very white; some axillary heads.
Langen-DIJK 936	Mild, only for very large	20.8	Fair	Slight	Short, narrow stem; very large; coarse petioles and leaves; very large.
#30	Mild, distinct	16.32	Possible	Prevalent	Petioles slightly coarse, distinctly flattened, tipburn may be limiting.
Langen DIJK 939	Strong	8.8	No		Tall, very solid, medium size; may be good market, but strong, sharp flavor.
Lange DIJKER		13.6	Good	Trace	Outstanding general appearance.
#19	Sweet, mild	13.7	Good		Slightly flat shape; holds well but possible trace of discoloration around stem when overmature.
Langen DIJK 930	Mild, some sl. sharp	15.2	Possible	Trace	Kraut possibilities but color may be fault; thick leaves and midribs.
#26	Mild	12.9	Possible		Early, but did not hold; good table quality; kraut use questionable; thin leaves, flat shape.
Globe 62M	Sl. sharp	15.94	Possible	Slight	Slightly open; internal axillary heads present.
NY Ballhead		14.0	Fair	Slight	Somewhat coarse petiole; large, wide stems.
Langen DIJK 937	Rich, sl. strong	13.0	Good	Trace	Tall; variable shape; wide stem but outstanding solidity and texture.
9281 Globe	Mild	14.74	No		Large basal heads and internal axillary heads; coarse in appearance.
TBR Globe	Mild	14.9	Poor		Somewhat coarse; light in weight.
Penn State Ballhead	Mild	13.6	Fair	Some	One bad tipburn head—no others observed; generally good but some large, wide stems.
TBR Globe	Mild	14.9	Fair		Some large stems.

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Cabbage Varieties . . .

Production Quality Evaluation of Cabbage Varieties, 1966

Variety	Source*	Date maturity	Uniformity				Size		Solidity	Stem length	Color		Score
			Plant	Head	Mat	Size	Horiz.	Vert.			Depth green	Note	
							In.	*In.*		*In.*	*In.*		
NK 901	1	10/3	3	3	3	2	11	8	4	.4	¾	Some yellow	3
DB Shortstem	2	9/19	3	4	2	3	9.5	8	5	.5	½	White, sl. yellow	4
Poepe Witte #28	..	9/7	5	5	5	4	10.5	11	4	.4	¾	Sl. yellow	4
Wisc. Hollander #8	3	10/10	5	5	3.5	3.5	10	9	3.5	.3–.75	½	Sl. yellow	3
Bruns-vigor	5	9/19	3	3	3	5	13.5	8.5	5	.35–4	½	White to yellow	4
Marion Market	4	9/19	2.5	3	3.5	3	10.5	11	4	.6–.7	¾	White and yellow around edge	3
Langen-DIJK 936	6	10/15	4	4.5	4	4	11	11	3	.4–.5	¾	Some yellow	3.5
#30	7	9/26	5	5	5	4	12	8	4	.5	½	White	4
Langen DIJK 939	6	10/15	4	4	4.5	4	9	8	5	.4	¾	Greenish even	3
Lange DIJKER	6	10/10	4.5	4	4	4	10.5	10	4.5	.4–.6	½	Good	4
#19	7	10/11	5	5	5	4.5	11	8	5	.5	½	Good	4
Langen DIJK 930	6	9/18	5	5	5	4	10.5	9.5		.3–.4	½	Some yellow tip	4
#26	7	8/20	5	4	5	5	11	6.5–7	4	.3–.5	½	White, sl. yellow in center	4
Globe 62M	3	9/26	4	4	4	4	10	9	3	.4	¾	Yellow in axils and tip	3
NY Ballhead	8	10/6	4	4	4	3	10.5	9	4	wide .6–.65	½	Sl. yellow	3.5
Langen DIJK 937	6	10/6	3.5	3	4	3	10	8	5	wide .4–.6	½	Sl. yellow	4
9281 Globe	2	9/26	4	3	4	3	11	11	1–2	.3–.5	1	Bad yellow	1
TBR Globe	2	9/26	3	3	4	4	9.5	10	2	.3–.4	1	Some yellow and green	2
Penn State Ballhead	9	10/10	5	4	4	3	10	9.5	4	wide .5	¼	Sl. yellow	4
TBR Globe	1	9/26	4	3	4	3	10.7	10.5	4	.3–.6	1	Yellow centers	3

* Sources: 1: NK; 2: SRS; 3: Corneli; 4: Reed; 5: Unknown; 6: Van Loenen; 7: Sakata; 8: Christenson; and 9: FM.

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Vegetable Note . . .

The first-formed flower primordium on determinate varieties (plants with terminal inflorescences) of snap beans is directly in the axil of the uppermost leaf, irrespective of the number of leaves on the main stem. The first flowers to open and set fruits on the plant occur directly on the main stem, in the axil of the uppermost leaf, and the next flowers to open are those lowest on the terminal inflorescence of the main stem. (O. O. Ojehomon, *Annals of Botany* NS 30: 487-492. 1966.)

Performance of Lima Beans in Western Oregon

In 1965 and 1966 we observed new breeding lines of lima beans, developed elsewhere, in nonreplicated plots at Corvallis. Several years had elapsed since the last tests. Lateness of maturity has long been known to be a major hazard in production of the crop in the cool climate of western Oregon.

As a result of breeding work at Utah State University (L. H. Pollard), University of Illinois (seed received through A. E. Thompson), United States Department of Agriculture (Robert Wester), and Ben Fish & Son (Peter Fish), it seemed advisable to test the new materials to determine possible adaptation to the Willamette Valley area.

In 1965, breeding lines and common varieties of limas from the USDA and Ben Fish & Son were observed; in 1966, lines were secured from the same sources as well as from the University of Illinois and Utah State University.

The 1965 season ended abruptly with a frost on September 17, almost a month earlier than the average date for killing frosts in the area. The plots were harvested immediately, however, and yields of over two tons per acre of shelled limas were obtained from many of the lines. The variety Thaxter yielded 3.25 tons per acre, which was the top yield.

In 1966, plots were planted June 1 and were harvested September 23. Yields were again relatively heavy, as shown in Table 1. A total of 136 lines and varieties were harvested. Only the check varieties and breeding lines yielding at least 2 tons per acre are shown below.

Table 1. Lima Bean Yields at Corvallis, 1966

Line and accession	Source	Seed size	Yield shelled beans per acre
			tons
5220-Ill. 1061-136-63	Univ. Illinois	Small	2.9
5389-U9	Utah State. Univ.	Small	2.7
5332-Mg 286-65	Ben Fish & Son	Small-med.	2.4
5339-D63-65	Ben Fish & Son	Large	2.5
5338-U8	Utah State Univ.	Small	2.2
4828-532-64	Ben Fish & Son	Large	2.4
5331-Mg 261-65	Ben Fish & Son	Large	2.3
5306-D42-65	Ben Fish & Son	Small	2.3
5370-D29-65	Ben Fish & Son	Large	2.3
5388-U8	Utah State Univ.	Small	2.2
5322-D5-65	Ben Fish & Son	Small	2.2
5384-U4	Utah State Univ.	Small	2.2
57-101MW	OSU	Small	2.1
4679-62-64	Ben Fish & Son	Small	2.1
5338-D44-65	Ben Fish & Son	Large	2.1
4828-532-64	Ben Fish & Son	Large	2.1
5399-U19	Utah State Univ.	Small	2.0
5315-D21-65	Ben Fish & Son	Large	2.0
5381-U1	Utah State Univ.	Small	2.0
65L56CW	OSU	Small	2.0
5327-Thorogreen 1	Ben Fish & Son	Small	1.7
5373-Green Seeded Fordhook	Ben Fish & Son	Large	1.3
4665 Thaxter 1	Ben Fish & Son	Small	1.3
4666 Thorogreen 2	Ben Fish & Son	Small	1.2
Conc. Fordhook	Ben Fish & Son	Large	1.2
4665 Thaxter 2	Ben Fish & Son	Small	1.7
5349 Thaxter 3	Ben Fish & Son	Small	1.2

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Lima Beans . . .

Some gains in earliness of maturity and yield appear to have been made in potential adaptation to this area. Earliness differentials are not great, however, and harvest of the slightly earlier types for processing purposes would be expected, on the basis of these observations, only after the first week in September. Length of processing period would, therefore, be relatively short.

It is difficult to predict what the ultimate potential might be in breeding the lima bean for excellent adaptation here. A major change, involving types maturing two or three weeks earlier than anything yet tested, is hardly to be expected. To secure such a change, hybridization with other species of beans may be required; this would mean many years of intensive breeding work.

Outside of breeding, certain cultural practices could have potential value: (1) pre-germination of seed at temperatures above 60° F—practical possibilities need further exploration; (2) delay of planting until soils are near 60 degrees—late May to early June; (3) precision planting, with plants spaced on 12-inch squares rather than the usual 36-inch rows; (4) timely irrigation, estimated at this time as about one-half that required of snap beans; (5) good air drainage away from trees, since the lima is highly susceptible to white and gray mold; (6) use of transparent or slightly tinted polyethylene strips over the precision-planted, closely spaced rows, and with fertilizer bands carefully placed; and (7) use of warm, well-aerated soils as much as possible.

Further exploration of the lima bean's potential in western Oregon appears justified.

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Vegetable Notes . . .

In New Jersey, Singh and Alderfer studied the effects of soil-moisture stress at different periods of growth on some vegetable crops. They found that most of the crops grown were affected by high soil-moisture stress during any stage of growth, resulting in reduced yield and quality of marketable products. With snap beans, growth and yield were reduced most when plants were subjected to high soil-moisture stress, from planting until pods were 1½ inches long (August and September). During this period, in the latter half of September, high water stress at blossoming may have contributed most to yield reduction. Moisture extraction under snap beans, cabbage, and broccoli was greatest in the 0 to 9 inches of the surface layer of a Nixon sandy loam soil in which the field tests were conducted. (*Soil Science* 101 (1) : 69-80, 1966.)

Technical Bulletin 97 of the Oregon Agricultural Experiment Station, entitled *Effects of Soil Moisture and Nitrogen Fertilizer on Pole Beans,* is a recent publication by H. J. Mack, L. L. Boersma, J. W. Wolfe, W. A. Sistrunk, and D. D. Evans. A copy can be obtained by writing the Department of Horticulture at Oregon State University.