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VEGETARIAN

A Vegetable Crops Extension Publication

Vegetable Crops Department • 1255 H&DP • Gainesville, FL 32611 • Telephone 392-2134

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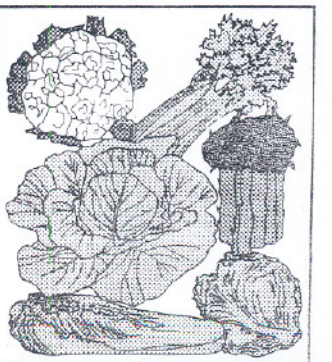
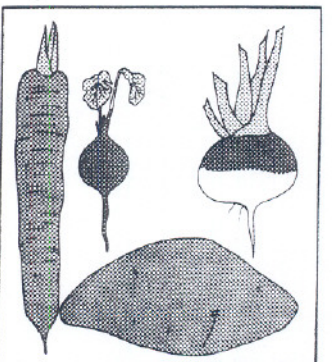
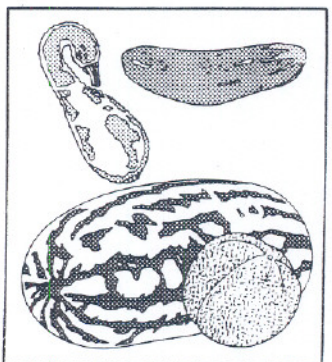
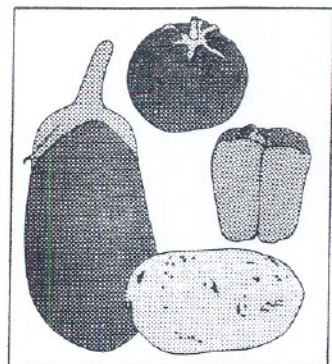
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Note:

Anyone is free to use the information in this newsletter. Whenever possible, please give credit to the authors.

The use of trade names in this publication is solely for the purpose of providing information and does not necessarily constitute a recommendation of the product.



I. NOTES OF INTEREST

A. New Publications

Maynard, D. N. and J. M. Stephens. 1985. Vegetable Seed Sources Veg. Crops Ext. Report 85-1.

Hochmuth, G. J., D. N. Maynard, and T. K. Howe. 1985. Snow Pea and Snap Pea Cultivar, Fertilizer, and Spacing Studies. Veg. Crops Res. Report 85-1.

Stall, W. M. and D. H. Teem. 1985. Estimated Effectiveness of Recommended Herbicides on Selected Common Weeds in Florida Vegetables. Vegetable Crops Fact Sheet VC-17.

B. Vegetable Crops Calendar

January 23 - February 27, 1986. Fruit Production, Citrus, and Alternatives. Thursdays 2-4 P.M., Citrus County Agr. Center, Inverness. Contact Andy Rose for topics.

February 2 - 4, 1986. Southern Region ASHS. Florida Center Hotel, Orlando. Contact Dr. Will Waters, Gulf Coast Research and Educational Center, Bradenton.

February 5 - 6, 1986. International Conference on Computers in Agric. Extension Programs, Lake Buena Vista.

February 18 - 20, 1986. Southeastern Agribusiness Computer Conference and Trade Show, Lakeland Civic Center, Lakeland, FL.

February 19 - 20, 1986. Florida Seedsmans and Garden Supply Association/IFAS Seedsmans Seminar. University Centre Hotel, Gainesville. Contact Dr. Don Maynard, Gulf Coast Research and Educational Center, Bradenton.

March 21, 1986. Watermelon Institute, 1-5 P.M. Sheraton-Maitland, Orlando. Contact George Hochmuth, Vegetable Crops, Gainesville.

March 24, 1986. IFAS Weed Workers. 1304 Fifield Hall, Gainesville. 1:30 - 5:00 P.M.

March 25 - 26, 1986. Florida Weed Science Society. Florida Farm Bureau Building. Gainesville.

April 28 - 30, 1986. Commercial Vegetable Crops In-Service Training, Sanford, Seminole County Agr. Center. Contact George Hochmuth, Vegetable Crops, Gainesville.

II. PESTICIDE UPDATE

A. Cold Weather Handling of Liquid Herbicides and Surfactants.

The following list is abstracted from an article by R. A. Schwartzbeck in Weeds Today, Vol. 16, No. 4, 1985.

The list given is up-to-date this year, however manufacturers do change certain components in the products due to several factors from time to time. The most important criterion in determining if a product is usable is the complete absence of crystals and a homogeneous nature. Be sure to consult the label for up-to-date information and if specific questions occur, consult the manufacturer.

Product	Minimum storage temperature	Comments
AAtrex 4L or Atrazine 4L	No special handling	Freezes with no damage to product.
Amiben 2E	32°F	If exposed to prolonged cold temperatures, place in warm storage (50-80°F) for several hours (several days for drums). Agitate before using by inverting the container several times, or by rolling the drum.
Amitrol T	32°F	Freezes at 32°F but needs no special handling as temperatures return to normal.
Avadex	32°F	Place container in a warm room (72°F) for several days and roll or shake to thoroughly mix product.
Balan EC	40°F	Avoid freezing. If frozen, poor weed control may result. Contact manufacturer representative if product freezes.
Banvel II and Banvel 4E	15%	Freezes at 15°F but completely redissolves above that temperature. No special handling is required.

Product	Minimum storage temperature	Comments
Furloe	30°F	Warm to 65°F and agitate until product is mixed.
General weed killer	30°F	If stored below 30°F, warm to above 50°F and agitate until product is thoroughly mixed.
Glean	No special handling	
Goal 2E	32°F	If product freezes, contact manufacturer representative.
Hoelon	20°F	If stored below 20°F, warm and agitate thoroughly before using.
Hyvar XL	0°F	If freezing of product occurs, warm product, then shake or roll container to dissolve, contact manufacturer representative.
Krovar	No special handling	
Lasso 4E	32°F	Place in warm room (72°F). Then roll or shake the container frequently for several days.
Lasso MT	No special handling	Freezes with no damage to product.
Lasso/Atrazine	40°F	Place in warm room (72°F). Then roll or shake container frequently for several days.
Lexone 4L	32°F	If product freezes, warm and agitate. If product appears to be lumpy, do not use. Contact manufacturer representative.
Lorox 4L	Avoid freezing	If product freezes, contact manufacturer representative. Do not use product.

Product	Minimum storage temperature	Comments
Nortron 4F	40°F	Do not let freeze. If this occurs, call manufacturer representative.
Oust	No special handling	
Paraquat + Plus	32°F	Do not let freeze. If frozen, poor weed control may occur. Contact manufacturer representative if product freezes.
Poast	0°F	After product warms above 30°F agitate thoroughly before using.
Prefar 4E	42°F	If freezing occurs, warm product and agitate container to dissolve.
Premerge	20°F	Separation may occur at temperatures below 20°F. Agitate before use.
Princep 4L	No special handling	Freezes with no damage to product.
Prowl EC	40°F	If crystals form, place in warm room and agitate. If crystals completely dissolve, product is usable. If crystals do not completely dissolve do not use product and call manufacturer representative.
Pyramin FL	15°F	Warm product to room temperature and agitate thoroughly.
Ramrod Flowable & Ramrod/Atrazine F	20°F	Do not allow product to freeze. If freezing occurs, contact manufacturer representative.
Rescue	32°F	Warm to 60°F, and roll the container before using.

Product	Minimum storage temperature	Comments
Ro-Neet 6E	20°F	If freezing of product occurs warm and agitate to dissolve crystals. If crystals do not dissolve, contact manufacturer representative.
Roundup	No special handling	Freezes with no damage to product.
Sencor 4F	14°F	Freezes with no damage to product. Will reconstitute as product is warmed.
Surflan AS	32°F	If freezing of product occurs, warm and agitate to dissolve crystals. If crystals do not dissolve, contact manufacturer representative.
Sutan + 6.7E	Does not freeze	If stored for long periods below 0°F, container should be rolled to mix product in case layering may have occurred.
Sutazine	-30°F	If stored for long periods below 0°F, warm to 65°F and and thoroughly agitate.
Tackle	No special handling	Freezes with no damage to product.
Tillam 6E	No special handling	If stored for long periods below 0°F, container should be rolled to mix product.
Treflan 4E	40°F	Place in warm room and agitate. If crystals completely dissolve, product is usable. If crystals do not completely dissolve do not use product and call manufacturer representative.
Treflan MTF	No special handling	May be stored in unheated facilities.

Product	Minimum storage temperature	Comments
Unite	20°F	Warm to room temperature (65°F) and agitate.
Vernam 7E	Does not freeze	If stored for long periods below 0°F, the container should be rolled before using to mix product because of possible layering.
X-77 spreader	No special handling	Freezes with no damage to product. Simply warm to use.

(Stall - Veg. 86-01)

III. COMMERCIAL VEGETABLES

A. Snow Pea and Snap Pea Cultivars.

Commercial production of snap peas and snow peas in Florida has been very limited, although the crop might be suitable for winter production in southern Florida and spring production elsewhere in the state. In addition to the fresh market, processing by freezing offers another market for snow peas grown in Florida. Research was conducted at Gainesville and Bradenton to determine appropriate cultivars for snow and snap peas in Florida.

At both locations, the crop was grown on raised beds with 3 rows of peas per bed. Spacing for the cultivar trial was 2 in. between plants in rows spaced 8 in.

Yield data is presented in Table 1. Snow peas tended to produce higher yields than snap peas. Large variation was noted for earliness among cultivars. Early cultivars tended to have lower total yields than later cultivars.

Based on yields, concentration of maturity, and perceived market acceptance, it appears that snow peas offer more potential than snap peas as a commercial crop in Florida. 'Mammoth Melting' appears to be a cultivar worthy of trial because of its high pod quality.

Note: This research was conducted by G. Hochmuth, D. Maynard, and T. Howe, and more details are available from Research Report 85-01.

(Hochmuth Veg. 86-01)

Table 1. Yield and pod characteristics of snow pea and snap pea cultivars grown in Gainesville and Bradenton in Spring of 1985.

Cultivar	Source	Pod type	Mkt. Yield							Pod		
			10-lb cartons per 1000 linear bed ft.	Harvest per week (%)							Color ^x	Curling ^y
			Gainesville									
Oregon Sugar Pod	Abbott & Cobb	Snow	58 a ^z	0	0	11	55	34	0	0	3	1
Oregon Sugar Pod II	Burpee	Snow	57 a	0	0	25	42	33	0	0	1	1
Sweet Snap	Burpee	Snap	55 a	0	0	27	35	38	0	0	3	2
Early Snap	Abbott & Cobb	Snap	52 ab	0	55	37	8	0	0	0	5	2
Sugar Snap	Burpee	Snap	45 bc	0	0	0	35	65	0	0	3	3
Sugar Snap	Abbott & Cobb	Snap	41 cd	0	0	0	45	55	0	0	3	3
Mammoth Melting	Burpee	Snow	38 cd	0	0	4	49	47	0	0	1	5
Sugar Ann	Abbott & Cobb	Snap	35 cde	85	13	2	0	0	0	0	1	1
Sugar Daddy	Burpee	Snap	34 cde	0	0	0	32	68	0	0	5	2
Sugar Bon	Burpee	Snap	31 de	80	7	13	0	0	0	0	1	4
Sugar Bon	Abbott & Cobb	Snap	25 e	85	5	10	0	0	0	0	1	4
			Bradenton									
Oregon Sugar Pod	-	-	93 a	0	0	5	28	48	16	3	1	1
Oregon Sugar Pod II	-	-	90 a	0	0	6	34	45	12	3	2	2
Mammoth Melting	-	-	81 ab	0	0	0	8	32	42	18	1	4
Sweet Snap	-	-	68 bc	0	0	1	16	52	26	5	2	2
Sugar Snap	Burpee	-	65 bcd	0	0	0	2	26	47	25	4	4
Sugar Snap	Abbott & Cobb	-	60 cde	0	0	0	2	28	41	28	4	2
Sugar Daddy	-	-	49 def	0	0	0	3	35	45	17	5	3
Early Snap	-	-	45 efg	0	1	22	38	30	9	0	5	2
Sugar Bon	Burpee	-	32 fg	23	3	5	11	47	11	0	4	3
Sugar Ann	-	-	30 g	17	6	15	4	43	15	0	3	5
Sugar Bon	Abbott & Cobb	-	29 g	27	6	5	12	39	11	0	3	4

^xColor, 1 (light green) to 5 (dark green).

^yCurling, 1 (most curved) to 5 (no curling).

^zMeans in column followed by same letter are not significantly different by Duncan's multiple range test, 5% level.

B. Vegetable Crops Library

The following publications are in addition to those listed in the Vegetarian 85-4:

IPM for Cole Crops and Lettuce. 1985. M. L. Flint (ed.) Univ. of Calif. Pub. 3307. \$15.00.

IPM for Tomatoes. 1982. M. L. Flint (ed.). Univ. of Calif. Pub. 3274. \$15.00.

Both publications are available from Publications, Division of Agriculture and Natural Resources, University of California, 6701 San Pablo Ave., Oakland, CA 94608-1239.

(Maynard - Veg. 86-01)

C. What's in the Future for Vegetable Varieties?

Leaders in the California produce industry contributed to an article, "2001 - A Growing Odyssey", that appeared in the 1985 Western Growers Association Yearbook. They speculated on changes that would occur in the industry by the turn of the century.

Two prominent vegetable seed industry spokesmen - Paul Thomas of Petoseed and David Thompson of Ferry-Morse Seed Co. - looked into their crystal balls on what changes might occur.

From Paul Thomas' perspective:

- The trend toward increased use of F_1 hybrids will continue, and by the year 2000, most of the vegetables grown will be F_1 hybrids where appropriate.
- Specialty crops such as mixed melons (Persian, crenshaw, casaba), seedless watermelon, oriental vegetables, and many others will be common in produce departments.
- Direct marketing of vegetables will continue to increase, and this will influence the entire produce industry relative to acceptance and importance of specialty vegetables.
- Seed quality will continue to improve through enhancement and coating techniques.
- Some practical applications of biotechnology will begin to reach the marketplace and be available to growers.

David Thompson's comments reinforce the likelihood of practical biotechnology applications. New varieties, perhaps even kinds of vegetables, with higher yields, earlier maturity, wider adaptation, better disease resistance, herbicide tolerance, and higher nutritional value will be available to growers.

Effective extension educational programs are required to bridge the gap between biotechnology and the vegetable farm. Publications, meetings, demonstrations, and other tried and true extension methods

will still be useful. It is not too early to be thinking about the challenge of extension education in the biotechnology era.

(Maynard - Veg. 86-01)

IV. VEGETABLE GARDENING

A. Know Your Minor Vegetables - Garden Huckleberry

Garden huckleberry (Solanum nigrum var. quineense, also Solanum melanocerasum All.) is an edible form of the common nightshade weed plant. Garden huckleberry is also known as quonderberry, wonderberry, sunberry, moralle, morella, petty morel, solanberry, black berried nightshade, and houndsberry.

Since garden huckleberry is a member of the Solanaceae (nightshade) family and a close relative of the common nightshade (Solanum nigrum L.), they are often confused. Common nightshade is also called black nightshade, poisonberry, garden nightshade, and sometimes the deadly nightshade. Common nightshade is often reported to be poisonous, yet the garden huckleberry appears to be relatively safe. They should not be confused with the true deadly nightshade, Solanum dulcamara L. and Atropa belladonna L., both having the alkaloid solanine in such high concentrations as to make them very poisonous.

The garden huckleberry plant resembles a sprawling, 2 1/2 foot tall bell pepper bush. Its leaves are pepper-like, from 3 to 7 inches long, pointed, and medium green. Leaf stems are 1 to 3 inches long. Clusters of about 6 small, white flowers are borne along the main stems, followed in short time by 1/2 inch diameter berries which are green when immature and black when mature, resembling large wild huckleberries. Berries are filled with a greenish pulp, mixed with small, pale yellow seeds (800 seeds per gram).

Uses: Leaves are cooked and eaten as potherb. Berries are eaten when ripe and sometimes unripe. They are said to have the flavor of a bitter tomato. Berries are used for making preserves, pies, or cooked dishes. Leaves are reported to be high in methionine, with a total protein content of 4 to 6 percent.

Production: Garden huckleberry has been grown in gardens successfully all around the state of Florida. In garden demonstration trials at Gainesville, it was seeded in September and yielded ripe berries from late October through November.

It is suggested that it be grown much like a pepper plant. Sow seeds about one inch deep at a time that will allow the plant to grow and mature in warm weather since it is susceptible to cold injury. Space plants 12 to 24 inches apart. It may be transplanted and a start may be obtained from a cutting. Mulch such as black plastic is useful in its culture, but not necessary.

While no serious pests have been noted in the trial planting here at Gainesville, it is likely that common pests of other members of the Solanaceae family would occur from time to time on garden huckleberry.

(Stephens - Veg. 86-01)

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