

## STRAWBERRIES FROM SEED



'SweetHeart,' a seed-grown everbearing type of strawberry for home gardeners, has been introduced by Pan-American Seed Co., West Chicago, Ill.

The new strawberry bears medium-size sweet berries and is a perennial plant that produces runners, according to Scott Trees, Pan-American vice-president, research.

**Seed-grown berries** — Henry A. Wallace, developer of hybrid corn, became interested in growing strawberries in 1902 but did not become interested in producing them from seed until 1935. Wallace worked with strawberries when he moved to South Salem, N.Y. in 1946. Based on his success in developing hybrid corn, he felt there was an opportunity to grow strawberries from seed. Since Wallace's work earlier this century, there has been substantial breeding work with strawberries, mostly by university researchers.

Pan-American Seed's strawberry breeding work was started in 1975 by Jagan Sharma, Pan-American Seed plant breeder.

This summer, 'SweetHeart' is being grown at 10 trial grounds in the U.S. and Canada, with an additional 10 trials in Europe.

**New production method**—Strawberries have been sold as dormant plants by mail order and in nurseries and garden centers, or as started plants by root-pruning field grown plants and by starting them in cell packs for spring sales.

The introduction of 'SweetHeart' offers an alternative method of providing strawberry plants to home gardeners, a step which Alan Arrowsmith, Pan-American executive vice-president, predicts will expand the market for strawberry plant sales. A 1981 Gardens for All study by Gallup-Robinson, shows that only 19 percent of home vegetable gardeners grew any type of berries last year.

The traditional method of strawberry production has been to plant the berries in one season and make the first harvest the following season.

Tests indicate that about 70 percent of the 'SweetHeart' plants will bear fruit the first year from a December 15 sowing (under northern Illinois conditions) and, according to Sharma, all the plants will bear fruit the second growing season.

'SweetHeart' strawberries are perennials, and will form runners and new plants so that home gardeners can renew beds in that way. Alternatively, home gardeners could plant 'SweetHeart' strawberries in vegetable gardens, treating them as annuals by disposing of the plants at the end of the season. Dean Bemis, sales and advertising manager, predicts that yearly planting of strawberries as part of vegetable gardens may be the key to increased strawberry planting by more home gardeners.

**Greenhouse production of the 'SweetHeart' strawberry** —Greenhouse producers will find that the strawberry should be grown cool and scheduled with other early-sown greenhouse plants such as pansies, snapdragons and dianthus. The crop time from sowing to salable green plants is approximately 12 weeks (depending on light conditions), but about half of that time is spent in the seed flat before transplanting, requiring little greenhouse space.

Flowering in the pack is sporadic. When plants are fully established in the garden, flowering and fruiting are abundant, according to Sharma.

*(continued on page 2)*

## Strawberries (continued)

**Germination**—'SweetHeart' strawberry has 30,000 to 35,000 seeds per ounce. Growers should get 1,500 usable seedlings from  $\frac{1}{16}$  ounce of seed.

- Packeted seed should be placed in the freezing compartment of a refrigerator for 10 days, then sown immediately.

- Germination temperature should be maintained at 60° to 65°F (15° to 18°C). Variations in temperature out of this range will inhibit germination. Tests show that poor germination will occur above 75°F (23°C).

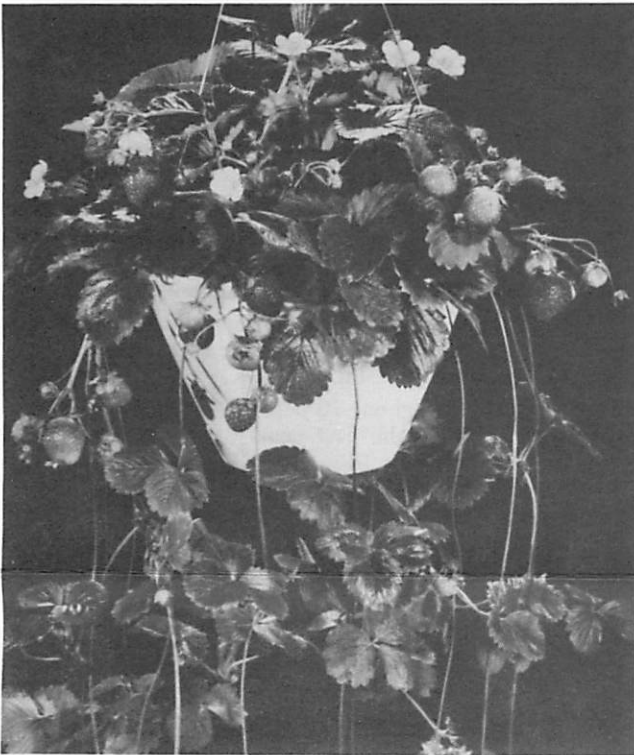
- Germination is slow, generally occurring in two flushes, with most seeds having germinated after four weeks.

- Sow seeds in a peat-lite media.

- Cover seeds with about  $\frac{1}{16}$  inch of vermiculite, milled spagnum or media to retain moisture.

- Maintain high humidity until germination by misting flats, or covering with plastic or glass. Remove plastic or glass after germination. If grown under mist, transfer to normal benches.

- When germination is complete, drench with half the recommended rate of Terraclor to control damping off.



A hanging basket of fresh strawberries is a great way to add interest to a porch or patio and provide a steady harvest of fresh, tasty, new 'SweetHeart' strawberries.

### Transplanting—

- Transplant six weeks after sowing. Because seedlings are slow to stretch, transplanting may be done any time between the sixth and the tenth week after sowing.

- Use cell packs (32, 36 or 48 cells per flat).

- After transplanting, grow in good light at 60° to 70°F (15° to 21°C) day temperatures and 55° to 60°F (13° to 15°C) night temperatures.

**Comparison with dormant plants**—Plant producers who are accustomed to starting bedding plants from seed

may find that the 'SweetHeart' strawberry fits comfortably into their own production system, according to Arrowsmith.

Michigan State University tested starting dormant strawberry plants in flats for sale as bedding plants (*A Guide to Producing Strawberries as Bedding Plants*, A.M. Armitage and W.H. Carlson, Research Report #370, Michigan State University Agricultural Experiment Station, 1978). The researchers achieved successful results with 18 or 32 dormant plants per flat.

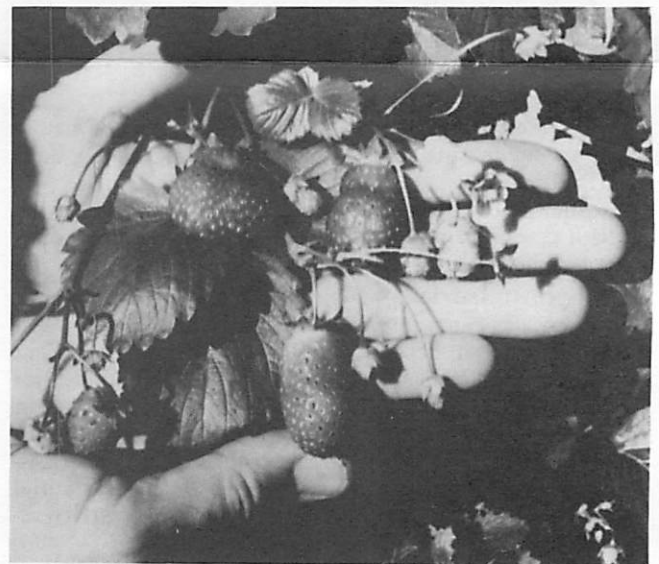
However, Pan-American and other researchers have achieved satisfactory results from planting 48 'SweetHeart' seedlings per flat, because seedlings grow to fill the flat.

**Cost comparisons**—According to Bemis, the cost of growing strawberries from seed compares favorably with costs of starting dormant plants for sale as green plants.

*Florists' Review*

TABLE 1. \*Does not include the labor cost of root pruning dormant plants to fit bedding plant cells.

|  | Example 1* |           |           |           | Example 2 |         |
|--|------------|-----------|-----------|-----------|-----------|---------|
|  | Runner 18  | Runner 32 | Runner 18 | Runner 32 | Seed 32   | Seed 48 |
| Plants per Flat  | 18         | 32        | 18        | 32        | 32        | 48      |
| Cost per Plant/Seed  | .04        | .04       | .055      | .055      | .011      | .011    |
| Plant/Seed Cost per flat   | .72        | 1.28      | .99       | 1.76      | .35       | .53     |
| Additional Plant/Seed Cost—3% Plant Loss; 20% Germination Loss and 10% Transplant Loss | .04        | .04       | .055      | .055      | .105      | .165    |
| Total Plant/Seed Cost per Flat   | .76        | 1.32      | 1.045     | 1.815     | .455      | .695    |
| Number of Weeks to Produce   | 4          | 4         | 4         | 4         | 12        | 12      |
| Production Cost (.20 per sq. ft.)  | .30        | .30       | .30       | .30       | .30       | .30     |
| Total Production Cost  | 1.20       | 1.20      | 1.20      | 1.20      | 3.60      | 3.60    |
| Total Plant/Seed Cost  | .76        | 1.32      | 1.045     | 1.815     | .455      | .695    |
| Total Production Cost  | 1.20       | 1.20      | 1.20      | 1.20      | 3.60      | 3.60    |
| Total Flat Cost  | 1.96       | 2.52      | 2.245     | 3.015     | 4.055     | 4.295   |
| Plants per flat  | 18         | 32        | 18        | 32        | 32        | 48      |
| Cost per plant   | .109       | .079      | .125      | .094      | .127      | .089    |



New 'SweetHeart' strawberries, grown from seed, provide fresh, tasty fruit from summer to frost.