

'Lavi'—A New Avocado Cultivar

I. Regev

Ministry of Agriculture, Akko 25212, Israel

H. Ardity

Kibbutz Maabarot 40230, Israel

T. Israeli

Regional Experiment Station, Akko 25212, Israel

E. Lahav, U. Lavi, M. Chemo, A. Chapnik, M. Ackerman, O. Feygenberg, E. Pesis, and D. Sa'ada

Agricultural Research Organization. The Volcani Center, Bet Dagan 50250, Israel

Additional index words. Persea americana, breeding

'Lavi' (previously 6-2-6), is an avocado seedling that was created in a project aimed at breeding a 'Hass'-like cultivar with a larger fruit. Products released from the breeding program before 'Lavi' were: 'Iriet' (Lahav et al., 1989), 'Eden' (Lavi et al., 1997), 'Galil' (Lahav et al., 1998) and 'Arad' (Lahav et al., 2005).

Origin

'Lavi' originated from a 'Hass' tree pollinated in spring 1991 by an unknown donor. The fruit was harvested in winter 1991/2, the seedling was planted in 1993 in Kibbutz Lavi (after which the cultivar is named) and bore its first fruit in 1994/5. 'Lavi' was found to be especially interesting for being 'Hass' like in its form but with larger fruit.

Description

Based on the IBPGR descriptors for avocado (1992): the tree is small in size (about 6 m without pruning), smaller and narrower than 'Lamb-Hass' and upright with dense foliage. The leaves are flat and smooth, medium in size with slightly upstanding edges. The flush is red-brown and almost no anise scent is noticeable in the leaves. Flowering season is during the month of April. 'Lavi' belongs to the A flowering group and its potential as an efficient pollenizer for the cultivars of the B flowering group is under investigation.

Productivity of 'Lavi' is good (about 20 t/ha) and compared to the 'Hass', 'Lavi' is a better producer with a smaller tendency toward alternate bearing. The fruit can be harvested without the stem (snapped) with no damage to the pericarp. It is ovate shaped and uniform in shape and size (Fig. 1). Like 'Hass' the peel color changes to black towards ripening (Table 1). Fruit weight is from 260 to 400 g according to the crop load and time of harvest. The peel is glossy, pebbly, stony, breakable and somewhat thicker than 'Hass'. Peel separation of the ripe fruit is intermediate. The seed is small, oval and usually 6% to 12% of the fruit weight. The

flesh is yellow with a buttery texture, no fibers and a good taste. At room temperature, the cut flesh shows slow enzymatic browning 6 h after

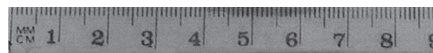


Fig. 1. 'Lavi' avocado.

Table 1. Performance of 'Lavi' compared to 'Hass'.

Trait ^z	Cultivar	
	'Hass'	'Lavi'
Average fruit weight (g)	210	330
Fruit shape	Pear	Ovate
Skin color	Black	Black
Gloss	Slight	Slight
Thickness	Medium	Medium-thick
Seed size (%)	13–17	6–12
Ease of peeling	Good	Medium
Flesh color	Yellow-green	Yellow
Fibers	Few	None
Flavor	Very good	Good
Firmness (Newtons)	130–161	145–161
Dry weight (%)	23–30	20–29
Softening time (days)	10–15	11–12
Harvest duration	November to May	January to March

^zAll values refer to the harvest season of each cultivar

cutting. Harvest season is from December to March which coincides with the main harvest season of 'Hass'.

Based on preliminary studies, at the Department of Postharvest Science at the Volcani Center, 'Lavi' can be stored for 3 weeks at 5 °C and 95% RH without damage and hardly any rotting. After this period of cold storage, shelf life at 20 °C, is 5 to 7 d. Softening at room temperature takes 11 to 12 d. The level of rotting increases towards the end of the harvest season. The only detected fungus was *Colletotrichum gloeosporioides* which affected the fruit body and not the stem end. Storage experiments to generate sufficient data regarding the incidence of rottenness are in progress.

Availability

'Lavi' is being patented and can be obtained from the Agricultural Research Organization, The Volcani Center, Bet-Dagan, Israel.

Literature Cited

- Bergh, B. O. 1992. The origin, nature and genetic improvement of the avocado. Calif. Avocado Soc. Yrbk. 76:61–75.
- IBPGR. 1992. Descriptors for avocado. Intl. Board Plant Genet. Resour., Rome.
- Lahav, E., U. Lavi, D. Zamet, C. Degani, and S. Gazit. 1989. 'Iriet'—A new avocado cultivar. HortScience 24:865–866.
- Lahav E., U. Lavi, C. Degani, D. Saada, A. Chapnik, M. Chemo, D. Zamet, and S. Gazit. 1998. 'Galil'—A new avocado cultivar. Alon HaNofa 52:287 (in Hebrew).
- Lavi, U., E. Lahav, A. Genizi, C. Degani, and S. Gazit. 1991. Quantitative genetic analysis of traits in avocado cultivars. Plant Breed. 106:149–160.
- Lavi, U., D. Sharon, D. Kaufman, D. Saada, A. Chapnik, D. Zamet, C. Degani, and E. Lahav. 1992. 'Eden'—A new avocado cultivar. HortScience 32:151.
- Lahav, E., T. Israeli, I. Regev, H. Ardity, U. Lavi, M. Chemo, M. Ackerman, O. Feygenberg, E. Pesis and D. Sa'ada. 'Arad'—A new avocado cultivar. HortScience 40(2):488.

Received for publication 26 Apr. 2004. Accepted for publication 31 Aug. 2004. We thank D. Stern from Kibbutz Lavi for his cooperation.