'Alena' Watermelon

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'Alena' is an open-pollinated, tetraploid watermelon (Citrullus lanatus (Thunb.) Matsum. & Nakai) of excellent quality, adapted for conditions of intensive cultivation and fertilization. Fruit size ranges up to 4 kg with about 70 seeds per fruit. The flesh is dark red, very firm, and with a sugar content ranging up to 12.5%. Rind color is black-green, with maturity about 7 to 10 days later than 'Sugar Baby'.

Origin

'Alena' was developed by colchicine treatment of 'Sugar Baby' seedlings at the cotyledon stage, followed by 4 generations of self-pollination and selection. The S₄ progenies appeared uniform and were bulked. Increase thereafter was by open pollination in isolation. Chromosome counts in pollen mother cells confirmed the existence of a tetraploid chromosome number (2n = 44).

Description

'Alena' exhibits classic polyploid features when compared with its diploid counterpart. Leaves are broader and thicker, the vine is slower growing, less branched, flowers are larger and petals deeper in color, pedicels thicker, androecium broader, seeds broader, with about 70 fully developed seeds per fruit compared with several hundred in 'Sugar Baby' (Fig. 1). 'Alena' yields over a longer period than 'Sugar Baby', with up to 4 fruits per plant (Fig. 2). 'Alena' is a good shipper. Fruits are round, rind is black-green with a hint of stripes. Externally, fruits are distinguishable from those of 'Sugar Baby' by the presence of a large blossom scar with a diameter of about 1 cm.

The superior eating quality of tetraploid watermelons has been discussed by Andrus (1). The flesh of 'Alena' is dark red, firm, and of much better quality than 'Sugar Baby'. In 5 years of trials at the Newe Ya'ar Experiment Station (Yizre'el Valley, northern Israel) and at Peza'el (Jordan Valley), soluble solids of 'Alena' ranged between 10.0 and 12.9%, compared with 8.7 and 10.0% for 'Sugar Baby'. Seeds are larger and broader (averaging 48 g/1000 seeds) than those of 'Sugar Baby'.

Cultivation practices

'Alena' is recommended for conditions of intensive fertilization and irrigation. Seedling development of 'Alena' is slower than that of 'Sugar Baby'. Addition of an NPK top dressing at the 3 or 4 true-leaf stage hastens vegetative development and promotes branching. A second top dressing, nitrogenous, is recommended after first fruit set. For best results, supplemental irrigations are required throughout the period of fruit development, the number depending on the soil and climate. Yields of up to 56 tons per hectare have been obtained (Table 1).

'Alena' was first grown for export trial to European markets in the early spring of 1979 by Mr. Shemu'el Ben-Sha'ul in Peza'el; a yield of 50 MT per hectare was obtained. Export on a larger scale was conducted in 1980. Yields of over 50 tons per hectare were obtained by several growers at Peza'el. In both 1979 and 1980, 'Alena' was well received on European markets and reports on its quality have been enthusiastic.

Availability

Experimental samples of seeds are available from the senior author upon written request.

Table 1. Comparative yields of 'Alena' and 'Sugar Baby' in 6 trials at the Newe Ya'ar Experiment Station and 2 locations in the Jordan Valley, Peza'el and the Biq'at HaYarden Experiment Station, Gilgal.

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<tbody>
<tr>
<td>Alena</td>
<td>44.1</td>
<td>44.7</td>
<td>43.3</td>
<td>50.6</td>
<td>48.0</td>
<td>55.7</td>
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<tr>
<td>Sugar Baby</td>
<td>57.3</td>
<td>36.9</td>
<td>62.4</td>
<td>52.0</td>
<td>53.7</td>
<td>61.0</td>
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Fig. 1. Cross sections of 'Sugar Baby' (left) and 'Alena' (right).

Fig. 2. 'Alena' plants under field conditions at Peza'el, May 1980.

Literature Cited


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