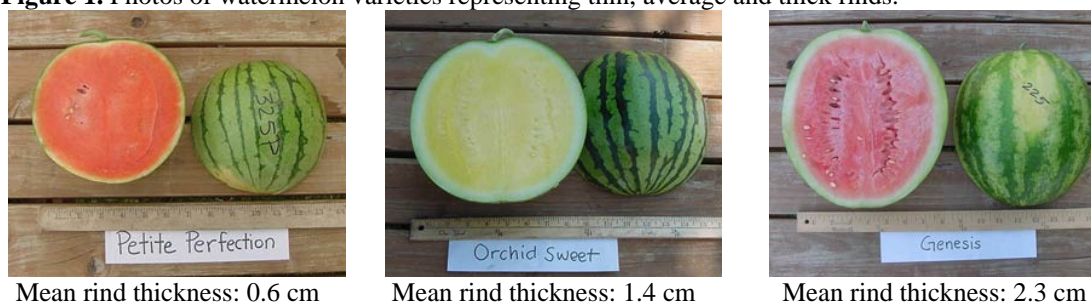


Icebox Watermelon Variety Trial 2004 Watermelon Rind Thickness

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Watermelon rind is the area of white-colored flesh between the colored flesh (usually red or yellow) and the outer skin (Figure 1). Rind thickness varies between varieties and is an important factor in watermelon production. Rind thickness can affect a variety's suitability for shipping and its overall marketability. Varieties with thicker rinds may be more suitable for shipping, but a thinner rind may be more appealing to consumers. Watermelon rind can be cooked, pickled or eaten raw; and thick rinds would be desirable for these purposes.

Figure 1. Photos of watermelon varieties representing thin, average and thick rinds.



In 2004 we conducted an icebox watermelon variety trial at WSU Vancouver REU. Icebox watermelon are generally between 6 and 12 lbs in weight, and are better suited for production in western Washington than larger picnic-size watermelon because they require fewer days to reach maturity. Our variety study included 47 varieties of icebox watermelon grown in an organic production system. The study design was a randomized complete block with four replications. Plots were 20 feet long by 8 feet wide, with 7 plants in each plot. Fruit weight, size, flavor, number of days from transplant to harvest, and overall yield were measured, and these results can be found in the project report, available on our website <http://agsyst.wsu.edu/Watermelon.htm>. Rind thickness was also measured, and the mean rind thickness was determined for each variety in the study. Rind thickness results are presented here.

Rind thickness in this study differed significantly among varieties and ranged from 0.1 to 3.8 cm (Table 1). The variety Ultra Cool had the thickest rind (3.8 cm), and Valdoria, Gypsy, Imagination, Lycosweet 5109, Genesis, and Melitopolski all had rinds thicker than 2 cm. Thai Baby was the smallest melon grown in this study, and had the thinnest rind measurement (0.1 cm). This variety is traditionally harvested in an immature stage and cooked as a vegetable in stir-fries and other Asian-style dishes; its thin rind is desirable for this purpose. A number of varieties grown in the study had rinds less than 1 cm thick. These included Petite Perfection (0.6 cm), Red Doll (0.6 cm), Gold Baby (0.7 cm), Cathay Belle, Smile, Hime Kansen, Golden Midget, and Little Boy (all 0.9 cm). There did not appear to be a correlation between rind thickness and the number of melons that cracked while still on the vine (Figure 2).

Table 1. Mean rind thickness of icebox watermelon varieties grown at WSU Vancouver REU in 2004.

Variety	Rind thickness (cm)	Variety	Rind thickness (cm)
Baby Doll	1.3	New Queen	1.1
Bambino	1.7	Nova	1.8
Belle 460	1.1	Orchid Sweet	1.4
Blacktail Mountain	2.0	Petite Perfection	0.6
Bobbie (8101)	1.5	Precious Petite	1.2
Cathay Belle	0.9	Quetzali	2.0
Cream of Saskatchewan	1.3	Red Doll	0.6
Desert King	2.2	Small Shining Light	1.3
Early Crimson Treat	1.4	Mini Seedless	1.2
Extazy 6008	1.5	Smile	0.9
Fenway	1.4	Soliataire	1.5
Genesis	2.3	Southern Light	1.1
Gold Baby	0.7	Sugar Baby	1.2
Golden Midget	0.9	Sweet Beauty	1.5
Gypsy	2.5	Thai Baby	0.1
Hime Kansen	0.9	Thai Black	1.8
Imagination	2.5	Tiger Baby	1.4
Jade Star	1.7	Ultra Cool	3.8
Japanese Cream Fleshed Suika	1.3	Valdoria	2.7
Jubilee	1.5	Vanessa	1.1
Little Boy	0.9	Winter King & Queen	1.7
Lycosweet 5109	2.2	Yellow Doll	1.3
Melitopolski	2.2		
Navajo Sweet	1.9		

P-value = 0.0000

Figure 2. Correlation of mean rind thickness and number of watermelon that cracked on the vine.

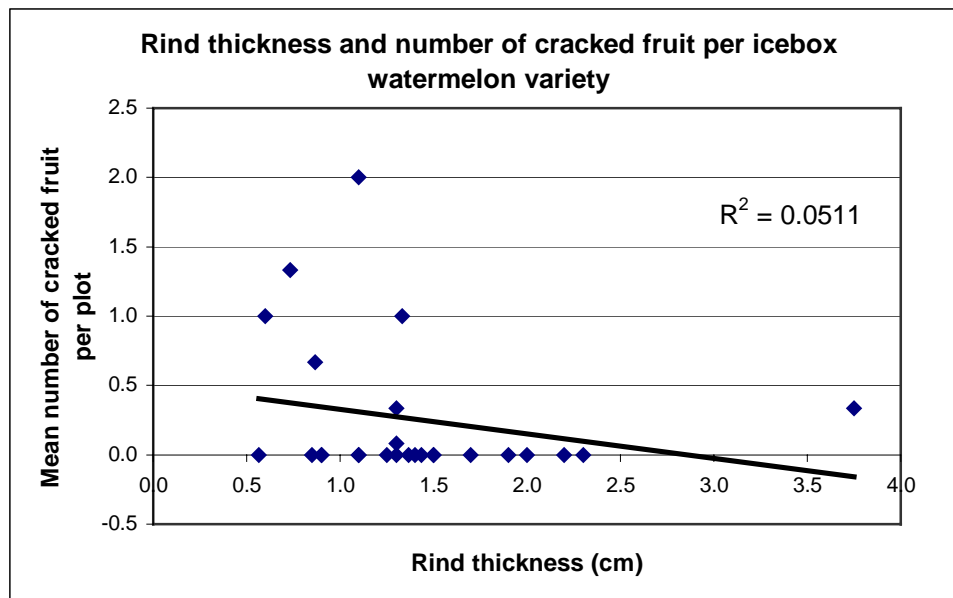


Table 2. Rind thickness and number of watermelons that cracked on the vine. Values represent the mean of 4 replicated plots (7 plants per plot).

Variety	Rind Thickness (cm)	Mean # Cracked	Avg Melon Wt. (lbs)
Bambino	1.70		
Belle 460	1.1	0.0	5.4
Blacktail Mountain	2.0	0.0	9.2
Cathay Belle	0.9	0.0	5.0
Cream of Saskatchewan	1.3	1.0	8.5
Early Crimson Treat	1.4	0.0	10.0
Genesis	2.3	0.0	9.4
Gold Baby	0.7	1.3	5.3
Golden Midget	0.9	0.0	3.9
Hime Kansen	0.9	0.7	3.7
Japanese Cream Fleshed Suika	1.3	0.0	9.5
Jubilee	1.5	0.0	8.7
Little Boy	0.9	0.0	6.0
Melitopolski	2.2	0.0	12.4
Navajo Sweet	1.9	0.0	11.6
New Queen	1.1	2.0	5.7
Orchid Sweet	1.4	0.0	9.4
Petite Perfection	0.6	0.0	5.3
Red Doll	0.6	1.0	4.9
Small Shining Light	1.3	0.3	8.0
Smile	0.9		6.5
Southern Light	1.1	0.0	7.2
Sugar Baby	1.3	0.1	7.8
Sweet Beauty	1.5	0.0	6.2
Tiger Baby	1.4	0.0	7.7
Ultra Cool	3.8	0.3	10.9
Winter King & Queen	1.7	0.0	9.4
Yellow Doll	1.3	0.0	6.1
<i>Mean</i>	<i>1.4</i>	<i>0.3</i>	<i>7.6</i>
<i>P-Value</i>	<i>0.0000</i>	<i>0.0834</i>	<i>0.0000</i>