The Connecticut Agricultural Experiment Station, New Haven

Effects of Multiple Cropping and Row Covers on Specialty Melons

BY DAVID E. HILL

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SUMMARY

In 1996, specialty melon cultivars Passport (galia), Acor (charentais), Honey Brew (honeydew), and Tenerife (canary) were grown in three serial plantings at Windsor (May 28, June 10, 21) on a sandy terrace soil and at Mt. Carmel (May 29, June 11, 24) on a loamy upland soil. All cultivars were grown on black plastic mulch and half of each row in all plantings was temporarily covered for 4 weeks with spun-bonded polyester (Reemay). At Windsor, average yield of the four cultivars in each planting grown under temporary cover was 9.6, 8.4, and 7.7 T/A compared to 3.0, 3.0. and 5.0 T/A in uncovered controls. At Mt. Carmel, average yield of the four cultivars grown under temporary cover was 13.2, 10.1, and 5.4 T/A compared to 4.4, 4.2, and 2.2 T/A in uncovered controls. The 3.2-1.5-fold increases in average yield of row-covered plants at both sites compared to uncovered plants was attributed to protection from insect (cucumber beetles) and disease (bacterial wilt) pressures that reduced plant populations and caused premature ripening of fruit on uncovered plots. The row covers protected the plants from insects during early growth and delayed spread of bacterial wilt disease.

In the earliest planting, yield of Passport, grown under temporary cover, exceeded 15.0 T/A at both sites. Average yield of Honey Brew in all plantings at both sites exceeded 11.0 T/A.

The four cultivars in three serial plantings provided continuous harvest from July 28-September 26, a 10-week span, compared to 3-6-week spans for individual cultivars in Crop 1, 1-5-week spans in Crop 2, and 1-3-week spans in Crop 3. The early-harvested fruit was dominated by Passport and Acor, and the late-harvested fruit by Honey Brew and Tenerife. All cultivars contributed to the mix between August 19-September 2 at Windsor and August 12-September 2 at Mt. Carmel.

Effects of Multiple Cropping and Floating Row Covers on Production of Specialty Melons

BY DAVID E. HILL

Specialty melons are members of the genus *Cucumus* whose fruits may be large, have unique flavors, and command a high price in the market place compared to smaller cantaloupes.

The origins of melons are somewhat obscure. Archeological evidence places their origins in subtropical and tropical Africa and Iran where they spread eastward to China (Yamaguchi 1983). Melons were brought to the New World by Columbus, and Spaniards carried them to California in the late-1600's (Robinson and Decker-Walters 1997).

Melons are predominantly grown in Southwestern and Southeastern United States where temperatures are warm. In winter, domestic supplies are replaced by imports from Mexico, Central America and Caribbean islands. New cultivars have been developed with shorter days to maturity that can be adapted to northern climates. Northern growers can also speed maturity by using transplants grown in a greenhouse. Black and infrared transmitting (IRT) plastic mulch with spun-bonded polyester row covers have been shown to substantially increase total yield and earliness on melons grown in the Northeast (Wells and Loy 1985).

Current outlook The present acreage of melons grown in Connecticut is unknown. Stephens et al. (1988) reported 57 acres grown in 1982, largely for roadside markets. An enterprise budget developed by Bravo-Ureta et al. (1985) presented a pessimistic view of cantaloupe production. Despite a demand for melons, the crop would be grown at a loss based on low yield projections. The enterprise budget included costs for plastic mulch but not row covers. Based on 1994-1995 trials (Hill 1996) it appears that the yields in 1985 were very conservative. Use of row covers substantially increased total yield. Further, specialty melons (except charentais) are larger than cantaloupe and command a greater price in the market place.

In this bulletin, I shall report on yield of representative cultivars of galia, honeydew, charentais, and canary melons grown in multiple plantings at Windsor and Mt. Carmel. I shall also discuss the effects of floating row covers and serial planting on harvest span and the distribution of fruit types throughout the harvest span.

METHODS AND MATERIALS

Soils The experiments were conducted at the Valley Laboratory, Windsor on Merrimac sandy loam, a well drained sandy terrace soil with somewhat limited moisture holding capacity, and at Lockwood Farm, Mt. Carmel (Hamden) on Cheshire fine sandy loam, a well drained loamy upland soil with moderate moisture holding capacity.

Cultivars Seeds were obtained from several domestic suppliers. The cultivars selected were the most promising representatives of several types of specialty melons tested in 1994-1995 (Hill 1996). They included the early-maturing Passport (galia type, 73 days) and Acor (charentais type, 74 days), mid-late-maturing Tenerife (canary type, 87 days), and late-maturing Honey Brew (honeydew type, 90 days). Their characteristics have been reported earlier (Hill 1996).

Culture Details of management of soils and crops and pertinent dates are listed in Table 1. Seeds were sown in 3x3x3-inch Jiffystrips (6-pot pack) filled with Promix Bx and placed in a greenhouse maintained at 75-90F. After germination, the plants were thinned to one per pot. After 30 days, seedlings were transferred to a cold frame for hardening. Water soluble 20-20-20 fertilizer was added to the seedlings 3 days before transplanting in the field. On appropriate dates (Table 1), plants of each cultivar were transplanted 2 feet apart in 50-foot rows mulched with 1.25 mil black film (3 feet wide). Row centers were alternately 5 and 6 feet apart. Paired rows, 5 feet apart, were covered half their length with spun-bonded polyester (Reemay 12.5x25 feet). The row covers were pinned to the soil with 6-inch wide wire staples that penetrated 5 inches into the soil to prevent loosening in high winds. The row covers were removed from each crop (Table 1) to allow bees to pollinate the first female flowers forming along the vines. The row

Table 1. Soil and crop management of specialty melons and pertinent dates, 1996.

ACTIVITY		
Soil fertilization (Rates based on soil tests)		
10-10-10 (preplant)		1000 lb/A
Calcium nitrate (side dress)		240 lb/A
Lime (Windsor only - to attain pH 6.5)		2800 lb/A
Planting dates		
Seeding in greenhouse	Crop 1	April 15
	Crop 2	May 1
	Crop 3	May 16
Transfer to cold frame	Crop 1	May 16
	Crop 2	May 31
	Crop 3	June 14
Transplant seedlings to field	Crop 1	May 28-29
	Crop 2	June 10-11
	Crop 3	June 21-24
Row Covers		
Installation (3 crops)	Day of transplant	
Removed from crop	Crop 1	June 25
	Crop 2	July 10
	Crop 3	July 25

covers removed from Crop 1 were reused on Crop 3. The plant spacing of 2x5.5 feet created a plant density of 3960 plants/A.

Fertilization The soils were fertilized with 10-10-10 before the black film was applied. After the row covers were removed, the soil between the plastic strips was sidedressed with calcium nitrate. Total application of nitrogen for the season was 140 lb N/A.

Disease control Powdery mildew, black rot, and anthracnose were controlled with bi-weekly applications of metalaxy+mancozeb (Ridomil MZ 58 at 2 lb/A), chlorothalonil (Bravo 500 at 3 pt/A) and benomyl (Benlate 50DF at 0.5 lb/A) or triadimefon (Bayleton 50WP at 4 oz/A). Applications began in mid-July following removal of the row covers from Crops 1 and 2 and continued to mid-August.

Insect control Vine borers and striped cucumber beetles were controlled with esfenvalerate (Asana XL [restricted pesticide] at 9.6 oz/A) at Windsor and carbaryl (Sevin 50WP at 2 pt/A) at Mt. Carmel. The first application immediately followed transplanting each crop but before the row covers were installed on half the crop. Another application was made after the row covers were removed from each crop. At Mt. Carmel, Sevin was applied in the evening after bee activity ceased, to avoid injury.

Weed control DCPA (Dacthal W75 at 12 LB/A) and paraquat [restricted pesticide] (Gramoxone at 3 pt/A) were used to control weeds in the soil strips between the mulched rows. The herbicides were applied before the row covers were installed. Occasional tall weeds that rose above the vines did not interfere with vine production or harvest of fruit.

Harvest of fruit Fruit were harvested when they were fully ripe. At full-ripeness, they are table-ready and limited to local markets. Fruit of each cultivar was harvested at both sites during the following span:

Passport	July 26-September 9
Acor	July 26-September 27
Honey Brew	August 2-September 27
Tenerife	August 15-September 27

Rainfall Rainfall throughout the growing season, May-September, is shown in Figure 1. Each bar represents the departure from the mean monthly rainfall for Hartford and Mt. Carmel reported by the National Weather Service. In 1996, the total rainfall during May-September was 20.1 inches at Windsor and 21.3 inches at Mt. Carmel, compared to 30-year averages of 16.0 and 16.7 inches respectively at each site. Although total rainfall at each site was 4.0 and 4.6 inches above average, respectively, monthly averages were below normal in 3 of 5 months at Windsor but only 1 of 5 months at Mt. Carmel. Heavy rain in July and September erased water deficits in May, June, and August at Windsor. In months with deficits, rainfall events were frequent and supplied light to moderate rain (0.1-0.5 inches) at each

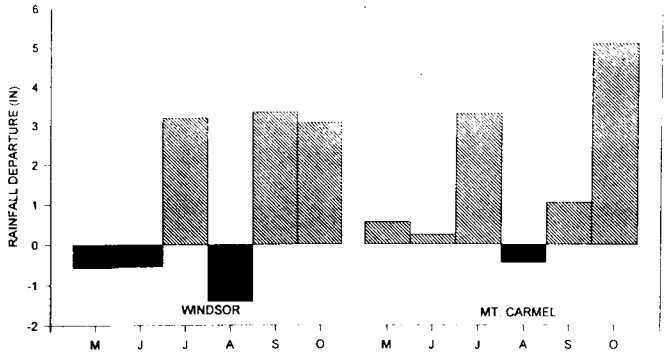

Figure 1. Departure (in.) from normal rainfall (0) during the 1996 growing season at Windsor and Mt. Carmel.

event. Rainless periods in May, June, and August lasted no more than 6 days at both sites.

YIELD OF FRUIT

Crop 1 At Windsor, the average yield of all cultivars of specialty melons was 9.6 T/A in plots temporarily covered with Reemay compared to 3.0 T/A in the uncovered control plots, a 3.2- fold difference (Table 2). The average weight of all fruit was 4.0 lb in covered plots compared to 3.6 lb in uncovered plots.

At Mt. Carmel, the average yield of all cultivars was 13.2 T/A in plots temporarily covered with Reemay compared to 4.4 T/A in uncovered plots, a 3-fold difference (Table 3). The average weight of all fruit was 3.7 lb in covered plots compared to 3.0 lb in the uncovered control.

The profound differences in yield between temporarily covered plots and the uncovered controls, at both sites, were due mostly to differences in total fruit. Fruit set on plots with row covers were 2.8-7.5-fold greater for all cultivars at both sites except Honey Brew at Mt. Carmel (Tables 2, 3). Low fruit set on the uncovered controls at both sites was attributed to bacterial wilt disease spread by cucumber beetles. Control of the beetles was incomplete and several plants wilted and died within 2 weeks after planting in the uncovered plots. The uncovered plots in all plantings became similarly infected. The disease not only reduced fruit set at both sites but reduced the weight of the fruit as they prematurely ripened.

On temporarily covered plots, yield of Passport and Honey Brew at Windsor and Passport at Mt. Carmel exceeded 15 T/A by virtue of high fruit set. Yield of all other cultivars on covered plots, at both sites, exceeded 10 T/A, except Tenerife at Windsor (9.8 T/A). Passport, in covered plots, produced the greatest number of fruit at both sites compared to other cultivars.

Crop 2 At Windsor, the average yield of all cultivars was 8.4 T/A in plots with row covers compared to 3.0 T/A in the uncovered controls, a 2.8-fold difference (Table 2). The average weight of all fruit was 3.7 lb in covered plots compared to 3.4 lb in uncovered plots.

At Mt. Carmel, The average yield of all cultivars was 10.0 T/A in covered plots compared to 4.2 T/A in uncovered plots, a 2.4-fold difference (Table 3). The average weight of all fruit was 3.6 lb in covered and uncovered plots.

As in Crop 1, yield differences between covered and uncovered plots was attributed to decrease in fruit set in uncovered plots. Fruit set on covered plots was 1.4-7.0-fold greater for all cultivars at both sites, except Passport at Windsor. Low fruit set was due to spread of bacterial wilt disease from Crop 1. Although the disease reduced fruit set in uncovered plots, fruit weight was slightly reduced at Windsor, but not at Mt. Carmel. Average fruit weight in uncovered plots at Windsor decreased slightly in Crop 2 compared to Crop 1. At Mt. Carmel, the average fruit weight increased 0.6 lb in Crop 2 compared to Crop 1.

In Crop 2 at Windsor, yield of Tenerife in covered plots exceeded 10 T/A. At Mt. Carmel, yield of Passport and Honey Brew in covered plots exceeded 10 T/A. In covered plots at both sites, Acor had the greatest number of fruit harvested.

Crop 3 At Windsor, the average yield of all cultivars was 7.7 T/A in covered plots compared to 5.0 T/A in uncovered plots (Table 2). While the average yield in covered plots progressively diminished from Crop 1 through Crop 3, average yield in uncovered plots increased 60% in Crop 3 compared to Crops 1 and 2, due to fewer losses of plants infected with bacterial wilt. The average weight of all fruit was 4.2 lb in covered plots compared to 4.0 lb in uncovered plots.

At Mt. Carmel, the average yield of all cultivars was 5.4 T/A in covered plots compared to 2.2 T/A in uncovered plots, a 2.4-fold difference (Table 3). Crop 3 was the least productive of all crops for covered and uncovered plots. Bacterial wilt reduced plant populations and caused premature ripening of fruit in covered and uncovered plots.

In Windsor, yield of Honey Brew in covered plots exceeded 10.0 T/A followed by Tenerife (9.6 T/A). Yield of Passport in uncovered plots (6.7 T/A) was 2-fold greater than in Crops 1 and 2 (3.6-3.0 T/A). Fruit set of Honey Brew on covered plots nearly equaled fruit set in Crop 1. Total yield, however, was lower because of smaller fruit. In uncovered plots, fruit set of Honey Brew was highest among the three crops and contributed to the highest yield (9.6 T/A) among all cultivars.

In uncovered plots at Mt. Carmel, Acor had the greatest fruit set among all cultivars, but its low average weight re-

duced total yield. All other cultivars had poor fruit set in uncovered plots.

SIZE OF FRUIT

Size of fruit is an important economic factor in shipping and establishment of price. After harvest, melons are graded by size and shipped to the wholesaler or retailer. Each type of melon has its own set of grade sizes that reflects the number of melons that fit into a standard container. Within each melon type, larger melons command a premium price compared to smaller, more abundant melons. For example, in daily commodity quotes in active trading, two-thirds cartons, containing 5's and 6's (number of melons per carton) may command as much as $2.00 higher per carton containing 8's even though the latter contains more melons per carton. Smaller melons may be processed into fresh-cut fruit pieces and gain "value-added" status that reflects processing costs and consumer convenience.

The size of the melons used in this study varied according to their genetic trait, weather conditions, and insect and disease pressure during the growing season. Genetically, the size of Tenerife (canary) is largest although its diameter size is misleading because the shape of the melon is oval to elliptical and the long axis may be up to twice the length of the diameter. The oval-shaped Honey Brew (honeydew) and round-shaped Passport (galia) are of intermediate size and round-shaped Acor (charentais) smallest.

In all three crops at Windsor, the average diameter of all melons grown under temporary cover varied less than 0.2 inches compared to the average diameter of all melons grown with no cover (Table 4). In all three crops at Mt. Carmel, the average diameter of all melons grown with temporary cover varied less than 0.3 inches compared to the average diameter of all melons grown without cover (Table 5). Between sites, the average diameter of melons at Windsor was up to 0.2 inches greater than those grown at Mt. Carmel for all crops. Greater insect pressure and disease at Mt. Carmel can account for the smaller size of melons.

Crop 1 At Windsor, the median range (50th percentile) of Passport and Acor was 4-5 inches for melons grown under temporary cover (Table 4). The size of Acor fruit was highly consistent. The median range of Honey Brew and Tenerife was 5-6 inches with 33% of Honey Brew exceeding 6 inches. The median range of Honey Brew grown without cover was 5-6 inches, but the median range of Tenerife fell to 4-5 inches.

At Mt. Carmel, the median range of Passport, Honey Brew, and Tenerife, grown under temporary cover, was 5-6 inches with 23% of Honey Brew exceeding 6 inches (Table 5). The median range of Acor was consistently 4-5 inches. Grown without cover, the median range of Passport and Tenerife decreased to 4-5 inches. The median range of Honey Brew remained at 5-6 inches.

Crop 2 At Windsor, all cultivars grown under temporary cover maintained the same median size range as Crop 1 (Table 4). Acor, however, had 15% of fruit measuring 3.8-3.9 inches, a size marginal for retail sales. Without cover, Passport maintained the same median size range as in Crop 1, but 24% had marginal size. All fruit of Honey Brew were 4-5 inches diameter, a decrease in size range from Crop 1. Tenerife, on the other hand, increased its size range to 5-6 inches and 40% of fruit exceeded 6 inches.

At Mt. Carmel, Passport and Acor, grown under temporary cover, maintained their median size range compared to Crop 1 (Table 5). Honey Brew doubled the percent of fruit exceeding 6 inches diameter (50%) compared to Crop 1 (23%). The median size range of Tenerife decreased from the 5-6 inch range to the 4-5 inch range even though the average diameter remained the same.

The median size range of all cultivars, grown without cover, increased, except Honey Brew. Although 17% of Passport fruit exceeded 6 inches, the median size range remained the same as in Crop 1 (4-5 inches).

Crop 3 At Windsor, the median size range of Passport increased to over 6 inches in plots with temporary cover (Table 4). Although the median size range of Acor remained constant in all three crops, 6% exceeded 6 inches diameter, an uncommon size for the cultivar. The median size range of Honey Brew was 4-5 inches compared to 5-6 inches in Crops 1 and 2. Tenerife had the same median size range as in Crops 1 and 2, but 28% of fruit exceeded 6 inches diameter.

The average diameter of Passport, grown without cover, increased over 1 inch compared to earlier crops. Its median size range was to 5-6 inches and 25% of fruit exceeded 6 inches. The median size range of Honey Brew was 5-6 inches, the same as in Crop 1 but larger than Crop 2 (4-5 inches). Although the median size range of Tenerife was the same as Crop 2 (5-6 inches), the average diameter was 1 inch less.

In general, the increase in average diameter of most cultivars grown with or without cover at Windsor can be attributed to reduced competition among fruit on individual vines (lower fruit set) and declining insect and disease pressure that caused premature ripening of fruit in earlier crops.

At Mt. Carmel, under temporary cover, average diameter of melons in all cultivars decreased. Median size range of Passport and Honey Brew decreased from 5-6 inches to 4-5 inches (Table 5). Acor and Tenerife remained in the 4-5-inch range, but 19% of Acor fruit were marginal size.

In uncovered plots, the average diameter of all cultivars decreased and the median size range was 4-5 inches.

MANAGEMENT

Selection of cultivars Specialty melons have a wide diversity in size, shape, and taste. Although each type has its

own unique flavor, all have a high sugar content when they mature on the vine. Melons that reach marketable size, but lack maturity, generally have lower sugar content and bland taste.

The melon cultivars chosen for multiple plantings included those with maturities ranging from 73-90 days. Passport, Acor, Honey Brew, and Tenerife were chosen because they showed the most promise among all types tested in 1994-1995 (Hill 1996). Three plantings of the four cultivars provided continuous harvest from June 26 through September 26. In earlier years, without insect and disease pressures, harvest continued until frost withered the vines in early-to-mid October.

The average harvest date span for both sites for each cultivar in each crop was as follows:

	Crop 1	Crop 2	Crop 3
Passport	7-28 to 8-23	8-14 to 9-5	8-22 to 9-5
Acor	7-29 to 8-18	8-16 to 9-9	9-2 to 9-23
Honey Brew	8-7 to 9-9	9-5 to 9-28	9-19 to 9-26
Tenerife	9-18 to 9-9	9-4 to 9-19	9-19 to 9-26

It is obvious that there is overlap in harvest spans between Crops 1, 2, and 3 for each cultivar. The seasonal distribution of fruit among the four cultivars throughout the total harvest span at each site is more revealing (Figures 2 and 3). Number of fruit in temporarily covered and uncovered plots were combined and extrapolated to estimate fruit/A for each cultivar. At Windsor, harvests up to August 12 were dominated by Passport and Acor, early maturing cultivars (Figure 2). Small amounts of Honey Brew were harvested on August 5. By August 19, all cultivars began to contribute to the mix and continued to September 2. The third crop of Passport and Acor still dominated the total fruit harvested on the weeks of August 26 and September 2. No fruit were harvested the week of September 9. Honey Brew and Tenerife, from Crops 2 and 3, were harvested on September 16 and 23.

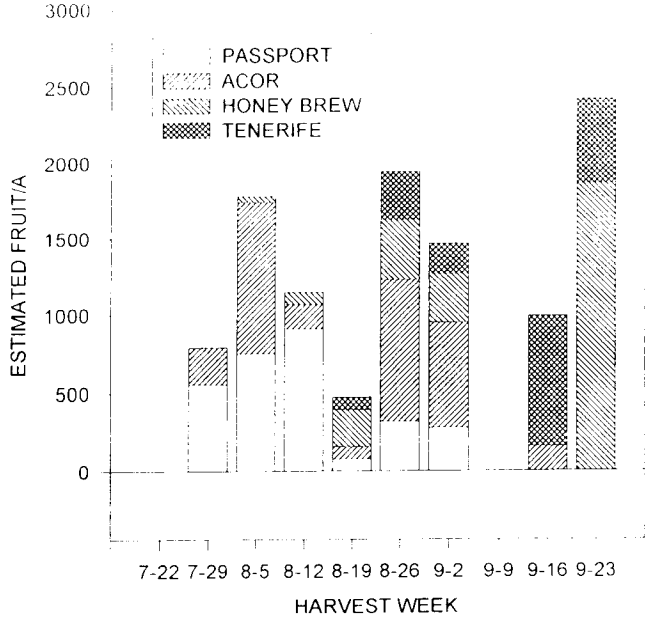

Figure 2. Estimated cumulative yields (no./A) of each cultivar for each harvest week at Windsor, 1996.

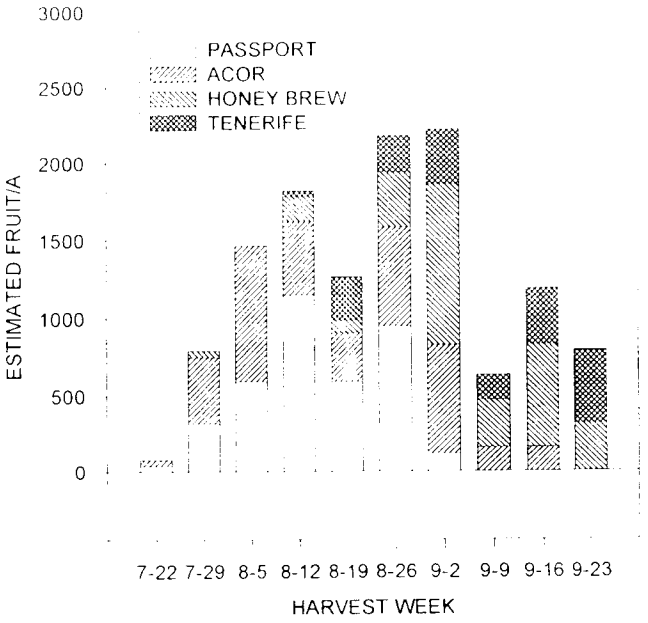

Figure 3. Estimated cumulative yields (no./A) of each cultivar for each harvest week at Mt. Carmel, 1996.

At Mt. Carmel, the distribution of harvested fruit from each cultivar was somewhat similar to Windsor but the estimated total fruit harvested each week exceeded 2000 pieces in late-August and early September (Figure 3). The harvest of Passport and Acor began a week earlier (July 22) compared to Windsor (July 29). Passport and Acor contributed most of the fruit harvested up to August 26 although Honey Brew and Tenerife began to appear in the week of August 12. Throughout September, the harvests were dominated by Honey Brew and Tenerife.

The mix of cultivars selected with varying maturity in several plantings provided a steady harvest of fruit for as long as 10 weeks. In 1996 trials, the harvest span for each cultivar was 3-6 weeks for Crop 1, 1-5 weeks for Crop 2, and 1-3 weeks for Crop 3. Acor had the broadest harvest span in Crops 2 and 3.

Plastic mulch and row covers In New England, Wells and Loy (1985) reported an average 10-fold increase in early fruit of muskmelon (first three pickings) and a 20% increase in total fruit over a 4-year study using black plastic mulch and spun-bonded polyester row covers, compared to black plastic mulch alone. Increases in early fruit in the 1996 trials at both sites were not as dramatic. Increases in early fruit of all cultivars in all crops at both sites ranged from 7-fold to

1.4-fold in plots covered with black plastic mulch and row covers compared to black plastic mulch alone. In contrast, average total yield of all cultivars in all crops at both sites was 2.6-fold greater in temporarily covered plots compared to uncovered plots.

It is clear that installation of row covers increases early fruit and total fruit. Does the added expense of row covers increase profits? The cost of row covers is estimated to be $945/two-thirds acre (in a three-crop sequence, the covers from the first planting are reused to cover the third planting) plus $150 labor for installation and removal. Total cost for melon production is estimated to be $3,340/A. The total yield of the four cultivars at both sites in 1995 and 1996 averaged 8,000 fruit/A. At an estimated retail price of $2.50/melon, gross returns could be as high as $20,000/A. At an estimated wholesale price of $1.25/melon, gross returns could be as high as $10,000/A. Therefore, net returns could be as high as $16,660/A retail and $6,660/A wholesale. These calculations assume that all harvested fruit of marketable size are sold.

Without row covers, the total yield of the four cultivars averaged 2,450 fruit/A. At an estimated $2.50/melon, gross returns could be as high as $6,125/A; at $1.25/melon wholesale, gross returns could be as high as $3,060/A. Net returns therefore could be as high as $2,785/A retail and -$280/A wholesale. This negative value is consistent with the enterprise budget of Bravo-Ureta et al. (1985) that reported a net loss on a crop of melons grown without row covers. It is clear, that row covers not only increased early fruit and total fruit, but profitability is about 6-fold greater when melons are grown for retail or wholesale.

Weed control Weeds were controlled with herbicide applications between the plastic mulch strips after transplanting but before the row covers were installed. Care was taken to prevent spray from contacting the transplants. After the row covers were removed the vines rapidly carpeted the soil and discouraged further weed germination and growth.

Insect and disease control Specialty melon vines and fruit are susceptible to disease (powdery mildew, anthracnose, and phytophthora) and infestations of insects (aphids, cucumber beetles, and vine borers). Abnormally high populations of cucumber beetles were observed in June at both sites. They were partially controlled by biweekly applications of insecticides on uncovered plants through August. Covered plants were protected from the beetles until the covers were removed. Transplants should be free of aphids before the row covers are installed. Several local aphid infestations were observed under the row covers in 1995.

To control disease, fungicides were applied every 7-10 days from mid-July through mid-August.

Harvest Mature fruit should be harvested for roadside sales. If specialty melons are to be shipped long distances, they should be picked a few days before they reach full ripeness. Honeydews may have to be treated with ethylene gas to ripen (Yamaguchi 1983). Specialty melons will remain fresh for 14-21 days if stored at 50-55F with relative humidity at 90-95% (Anon 1995). Most melons are sensitive to extreme cold or heat.

The average days to maturity for each cultivar increased from Crop 1 through Crop 3. The average days to maturity of Passport at both sites increased from 66 to 70 days, Acor from 66 to 73 days, Honey Brew from 81 to 93 days, and Tenerife from 88 to 96 days. The lengthening maturity reflected the effects of shorter days and cooler temperatures as the season progressed. All melons were harvested well before the first frost on October 5.

At maturity, each type of melon has its unique characteristics that signal its ripeness. The fruit of Passport develops an abscission layer, and the fruit will part from the stem under light pressure (full slip). Honey Brew fruit will part from the stem under moderate pressure (force or half slip). The fruit of Acor and Tenerife are cut from the vine when they are ripe. Ripeness in these melons is judged when the blossom end of the fruit yields under moderate pressure.

Ripeness is also determined by changes in the color of the rind. As Passport ripens, the color half changes from green to gold. Acor is ripe when the color changes from gray-green to buff. The stems of Acor will slip only when they are overripe. Overripe fruit will readily split when subjected to rapid changes in soil moisture. As Tenerife ripens, its color changes from pale yellow to deep yellow. The color changes in Honey Brew are very subtle. The greenish-white color slowly fades to white. Pressure testing of the blossom end of the fruit is a more reliable indicator of ripeness.

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Table 2. Yield of specialty melons at Windsor, 1996.

	ROW COVER				NO COVER			
Cultivar	Avg. wt. lb.	Total fruit No/A	Total yield T/A	2/3 ctn* No/A	Avg. wt. lb.	Total fruit No/A	Total yield T/A	2/3 ctn* No/A
CROP 1 (Transplanted May 28)								
Passport	2.6	12,040	15.6	975	2.5	2,850	3.6	225
Acor	2.7	9,185	12.4	775	1.6	1,585	1.3	80
Honey Brew	4.9	6,655	16.3	1,020	5.5	1,585	4.4	275
Tenerife	5.6	3,485	9.8	610	4.6	1,265	2.9	180
CROP 2 (Transplanted June 10)								
Passport	2.7	1,585	2.1	130	2.4	2,535	3.0	185
Acor	3.1	6,335	9.8	610	2.4	2,535	3.0	185
Honey Brew	4.3	4,435	9.5	595	2.6	635	0.8	50
Tenerife	4.8	5,070	12.2	760	6.4	1,585	5.1	320
CROP 3 (Transplanted June 21)								
Passport	4.6	1,585	3.6	225	5.3	2,535	6.7	420
Acor	3.0	4,750	7.1	445	2.7	1,265	1.7	105
Honey Brew	3.7	5,700	10.5	655	4.3	4,435	9.5	595
Tenerife	5.5	3,485	9.6	600	3.9	950	1.9	120

*Standard shipping container is the 2/3 carton weighing 30-34 lb, packed 4-10 melons/carton

Table 3. Yield of specialty melons at Mt. Carmel, 1996.

	ROW COVER				NO COVER			
Cultivar	Avg. wt. lb.	Total fruit No/A	Total yield T/A	2/3 ctn* No/A	Avg. wt. lb.	Total fruit No/A	Total yield T/A	2/3 ctn* No/A
CROP 1 (Transplanted May 29)								
Passport	3.1	12,040	18.7	1170	2.2	3170	3.5	220
Acor	2.3	10,770	12.4	775	2.1	4,120	4.3	270
Honey Brew	4.6	4,435	10.2	640	4.0	4,435	8.9	555
Tenerife	4.8	4,750	11.4	710	3.5	635	1.1	70
CROP 2 (Transplanted June 11)								
Passport	3.1	6,970	10.8	675	3.4	1,900	3.2	200
Acor	2.5	7,285	9.1	570	3.1	1,900	2.9	180
Honey Brew	5.0	5,700	14.2	890	3.6	4,120	7.4	460
Tenerife	3.9	3,170	6.2	390	4.2	1,585	3.3	205
CROP 3 (Transplanted June 24)								
Passport	2.6	3,485	4.5	280	2.5	2,535	3.2	200
Acor	1.9	5,070	4.8	300	2.0	1,265	1.3	80
Honey Brew	3.4	4,120	7.0	440	3.8	635	1.2	75
Tenerife	3.4	3,170	5.4	340	3.5	1900	3.3	205

*Standard shipping container is the 2/3 carton weighing 30-34 lb, packed 4-10 melons/carton

Table 4. Size distribution of specialty melons grown at Windsor, 1996.

	ROW COVER					NO COVER				
Cultivar	3-4″ %	4-5″ %	5-6″ %	6+″ %	Avg. dia. in.	3-4″ %	4-5″ %	5-6″ %	6+″ %	Avg. dia. in.
CROP 1										
Passport	8	63	29	-	4.6	-	44	44	12	4.7
Acor	-	83	17	-	4.3	40	40	20	-	4.1
Honey Brew	-	19	48	33	5.5	-	20	60	20	5.6
Tenerife	-	9	64	27	5.6	-	50	25	25	5.2
				Avg.	5.0				Avg	4.9
CROP 2										
Passport	-	60	40	-	4.7	24	38	38	-	4.7
Acor	15	45	40	-	4.8	12	63	25	-	4.4
Honey Brew	-	36	43	21	5.2	-	100	-	-	4.4
Tenerife	-	31	62	7	5.6	-	20	40	40	6.0
				Avg.	5.1				Avg.	4.9
CROP 3										
Passport	-	20	20	60	5.6	-	13	62	25	5.8
Acor	-	67	27	6	4.5	-	50	50	-	4.7
Honey Brew	-	56	39	5	4.9	-	29	64	7	5.1
Tenerife	-	18	54	28	5.5	-	33	67	-	4.9
				Avg.	5.1				Avg.	5.1

Table 5. Size distribution of specialty melons grown at Mt. Carmel, 1996.

	ROW COVER					NO COVER				
Cultivar	3-4″ %	4-5″ %	5-6″ %	6+″ %	Avg. dia. in.	3-4″ %	4-5″ %	5-6″ %	6+″ %	Avg. dia. in.
CROP 1										
Passport	-	42	53	5	5.0	10	70	20	-	4.4
Acor	3	82	15	-	4.4	23	54	23	-	4.3
Honey Brew	-	15	62	23	5.1	-	29	64	7	5.2
Tenerife	13	7	73	7	5.0	-	50	50	-	4.8
				Avg.	4.9				Avg.	4.7
CROP 2										
Passport	5	36	59	-	5.0	-	50	33	17	5.1
Acor	9	78	13	-	4.5	-	50	50	-	4.8
Honey Brew	-	22	28	50	5.6	-	38	62	-	5.1
Tenerife	-	50	40	10	5.0	-	60	40	-	5.2
				Avg.	4.7				Avg.	5.0
CROP 3										
Passport	-	82	18	-	4.6	13	74	-	13	4.6
Acor	19	81	-	-	4.1	25	75	-	-	4.2
Honey Brew	-	62	38	-	4.8	-	50	50	-	5.0
Tenerife	10	60	30	-	4.7	-	50	50	-	4.9
				Avg.	4.6				Avg.	4.7

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