

## Production of Strawberries in November and December FNE02-426

6635 Pine Top Rd

Hurlock, MD 21643

410-943-8792

[davoncrest@shorennet.net](mailto:davoncrest@shorennet.net)

2. The goal was to grow a marketable crop of strawberries in the months of November and December. To harvest and sell that crop to the high-end market first and then to other markets as needed. Several cultural methods were to be employed to achieve that goal.
3. Davon Crest Farms is located on the Eastern Shore of Maryland near Hurlock. The farm is a landlocked parcel of 95 acres of which 50 is tillable. We now have 4 acres of greenhouses and tunnels combined. A one-acre Haygrove tunnel was erected for the project. A one-acre greenhouse is used to grow small fruit plants and the remainder 18 tunnels (about 2 acres) are used to grow vegetable transplants and vegetables for restaurants. The operation also grew 15 acres of processing peppers and 10 acres of fresh market cabbage in the field.
4. Dr. Swartz was the primary cooperator helping to select the varieties to trial and the method to grow them. He set up the plots and offered assistance as problems were encountered. Brian Butler (Carroll county extension agent) came to scout the project and offer advice to improve the production. He also was running a similar experiment at a greenhouse located in Carroll County Maryland. The plants were provided by DCF and another grower (the Knills) managed the greenhouse located on their farm. Bob Rouse was also to provide help but developed health problems during the project. Though he was not able to personally come to the project he would answer questions concerning growing strawberries as needed. I can safely say I had three outstanding cooperators to help.
5. It was decided to work with two strawberry varieties, Sweet Charlie and Everest. Sweet Charlie is an early plastic culture variety developed in Florida. In the north when planted in the fall, it tends to flower if the fall is mild. It was chosen for the day natural characteristics needed to work in the fall. The second variety, Everest, was developed in England and is a true day neutral. It currently is the most planted variety for summer and fall production in England. Growing strawberries in our hot summer is almost impossible. It was decided that we would plant some tissue culture plants early and allow them to grow during the summer and be large enough to set fruit in the fall. We choose tissue culture plants for their juvenility. They could tolerate the heat of the summer and put out runners to fill in the row, reducing the number of plants needed to grow a crop. It was also decided to plant these plants in an earth gutter. (Exhibit 1) An earth gutter was developed at DCF to allow true sustainable agriculture practices. The ground is worked and then a bed shaper is used to form raised beds. The first two steps would be similar to laying



plastic for fall production of strawberries. The next step is to go over the bed with a modified bed press. In the middle of the bed press is a 6" pipe to form a groove in the top of the bed. The next step is to cover the entire field with ground cover. The ground cover is stapled into place with 6" staples. The beds are on 5' centers and a 12' wide ground cover is used. The cover will do two beds. Staples are used in the middle of the grove and on the side of the bed to hold the cover in place. When completed the bed will have a gutter formed in the top. The drip tape is placed in the bottom before filling with potting soil. This system allows the grower to recycle the soil (after composting) year after year. There is no need for herbicides and no soil fumigation. There is never a crop rotation problem because the plant and soil are pulled up and composted. The reason for this development was to extend the season. Currently most growers plant in the soil inside their tunnel. After a while they will have soil related problems, such as salt build up and soil related diseases. They then have to fumigate, increasing the cost and eliminating their chances of growing organically. The only other solution is to move the tunnel over new soil. Earth gutters have been developed at DCF to eliminate soil related problems in our tunnels. It was decided to grow most of the strawberries on this system but also plant some plants on a conventional plastic culture system using both varieties. The earth gutters were made in May and the tc plants were planted in the earth gutters only. Temperature treatments were also laid out. (Exhibit 2) There were 2 replications. The tc plants were planted with white on black plastic (Exhibit 6), aluminum (Exhibit 3), straw (Exhibit 4), native grass, and just the black ground cover on the shoulders of the beds (Exhibit 5). Both Sweet Charlie and Everest were set out. Each were planted in a row with spaces left out to plant more in the fall. The plants and temperature treatments were done by hand. In July the tunnel was erected over the strawberries. The cover was left off until it got cooler. In September the balance of the earth gutters were planted and the two rows of plastic. We also planted aluminum gutters with mother plants to see if they would produce fruit in the fall. This time slot was used for two reasons. First, strawberry plugs are only available in the fall. Second, if planted too early it was feared the plants would start runnering and not flower. Other varieties were planted in the tunnel but were not part of the actual research. It was believed that if any of the other varieties flowered they could be looked at next year. Data was to be gathered on the Sweet Charlie and Everest only.

6. By the end of June there were clear differences in the plant growth on the different temperature treatments. The plants with only the ground cover showing on the shoulders either died or for a few stopped growing. The aluminum had the largest growth, followed by the white and then the straw treatment. The Everest and Sweet Charlie failed to produce the runners expected to fill in the row. Sweet Charlie eventually did start to run but Everest never did put out many runners. Day neutrals are known for not runnering, but it was believed that being tc plants would overcome this problem. Will discuss more of why this occurred in answer 7. By September, the Everest was just starting to flower and the Sweet Charlie was still



runnering. At the end of August it started to rain so the covers were installed. By the end of September the temperature had dropped so it was necessary to use row covers to protect the strawberries. The desire was to grow strawberries with as little input as possible. No heat was planned for this project. The first frost occurred in mid to late October and the tunnels protected the now setting fruit. On November 15<sup>th</sup>, a field day was held to show the progress of the research. It was the first clear day for a month and the covers were pulled back for the day. The fruit was limited but the Everest was starting to set a lot of flowers. The sweet Charlie had failed to start flowering and still were producing runners. The rain and cold returned November 16th. Just 10 days after the field day a rare snowstorm entered our area. The tunnel cannot support the snow load so the plastic roof had to be removed. As soon as the snow came, a very cold front arrived and dropped temperature into the low 20's. Data was collected before the snow.

7. With out a doubt, this year's weather extremes have affected the project. It started with planting strawberries in June in the hottest, driest time ever for this county. Temperatures remained above 90 degrees for almost two months. Many days would reach 100 degrees and a heat index of 110. The fact the plants lived at all is in some way a miracle. Despite that extreme, it is clear that reflective covers near the plants improve the growth. As soon as the heat wave left, a month of cold overcast weather arrived. The rain was very cold and the sun was rarely seen. The final death to the project was the early snowfall. Here it is February and we are working in a record snowfall. To sum it up, we had the hottest and driest summer ever, the wettest fall ever and now record snowfall. The good news is if you average it out we have just about had normal average temperatures and rain fall for the year!!!!
8. I can only project the economics. We know that strawberries will sell for \$2.00 to \$3.00 a pint in the fall. This is compared to \$0.50 to \$1.00 a pint in the normal spring growing season. Restaurants beg for high quality strawberries and raspberries in November and December. Every week my customers asked if I would have any strawberries. It is clear that to guarantee strawberries in the fall, they must be grown in tunnels or greenhouse that can support snow loads, be able to be heated and provide supplemental lighting. This increases the cost, and at this time I cannot measure the profitability of these extra cost. I believe that most years it is not necessary to add heat or lighting. Only if you want to be sure of a crop will these extra costs be factored in.
9. I have many new ideas to make this project successful. It is clear that the weather quickly affects the growing of strawberry plants in the fall. This variable must be eliminated. Using pre-condition plants I believe will resolve this problem. In Holland a grower once told me he preferred plants from the freezer. The winter weather greatly affects the production in the spring . He knows what the plants out of the cooler are like because he knows what they were going in. Learning to condition the plant may be the next challenge but I believe well worth the endeavor. Putting shade cloth on the tunnel and using evaporating cooling will help reduce heat stress. This is along with using



reflective coverings on the shoulders of the bed. I need to look at more varieties that respond to this type of manipulation. In Europe, only Elsanta is used as conditioned plants. All other varieties do not have the yield of Elsanta. I am very pleased with the earth gutter and aluminum gutters (Exhibit 10). I will abandon the plastic culture system for fall production. Of the entire test, plastic culture system did the poorest. I believe some changes in the compost mixture may also help. The straight compost did not do as well as the mixtures with peatmoss.

10. Despite what appears to be a total failure, I am very excited about the future. I cut cost a little too much. Dr Takeda at USDA in West Virginia has been growing strawberries all winter long. I question the economics with the sodium lights and high heat needed to get the berries to produce all winter. If we can come up with a lower input system and only grow to the end of December I believe the economics will pan out. The market is strong for strawberries in November and December. There is a lull in USA production at a time restaurants are very busy. Next fall I will use conditioned plants and mother plants in a heated tunnel. I plan to have the ability to treat a small area with lights if needed and to see if the lights make an economic improvement. Shade cloth will be available to reduce heat if needed and a cooling system will be added. Most of the planning will be to overcome adverse weather. Under normal growing condition in this area I believe that few of these inputs will be necessary.
11. A large ad campaign was done to promote a formal training field day 11-15-02. (Exhibit 7) There were four guest speakers. Dr. Brent Black USDA, Dr. Fumiomi Takeda USDA, Kathy Demchak, Penn State, and coordinator Brian Butler, Maryland University. Others that assisted were Dr Swartz (Exhibit 11), Mike Newell, and Henry Hillary. Over 200 people came from 7 states. (Exhibit 8) The 2-hour seminar was held twice. Once in the morning and again after lunch. (Exhibit 9) All topics were related to growing small fruit out of season using tunnels and other means. Many commented on the presentations and the usefulness of the information presented. Several people since that meeting are now making plans to grow crops out of season. Several people have come to the research plot that could not attend on field date. I was asked to give a presentation at the Mid America fruit growers association this January in Kansas City. I gave a one-hour talk on the project. I explained the reason I felt it failed and the steps necessary to correct. I may be asked back next year to share more information on 2003 production results. Just prior to the field day an article in the Delmarva Farmer was published. This was part of the ad campaign to spark interest and get attendance. The interest has been outstanding. Many small growers that talked to us admitted that season extension was necessary for them to stay in business.
12. David Lankford  
Davon Crest Farms, LLC  
6635 Pine Top Rd  
Hurlock, MD 21601  
410-943-8792                      2/28/03





Exhibit 1

The center of the picture shows the Earth Gutters. To the left is the different mulch covers, to the right is standard ribbon row strawberry production. The drip is placed in the gutter before the plants are placed in the gutter. Tunnel is being erected over existing crops.





Exhibit 2

Close up of the different temperature treatment. It was hoped the straw would work, which was easy to apply and remove. This would allow for changing the temperature during the season if necessary.





### Exhibit 3

Everest on aluminum coated plastic. The slit in the plastic was to allow the plant to run and root. This picture was taken late summer and no runners were ever formed.





Exhibit 4

Everest in the earth gutter surrounded with straw. Berry quality was not as good as expected but the plant did put out runners.





Exhibit 5

These plants were planted the same day as the previous two. The dark soil and black fabric absorb so much heat the most of the plants died. A few survived, but did not grow to any size.



#### Exhibit 6

Everest on white plastic. Plants had runners and fruit. Plant size was very close to the plants on aluminum.





Exhibit 7

Haygrove tunnel were strawberry trail were. The vehicles were here for the field day held 11-15-02.



Exhibit 8  
Group inside high health greenhouse. 11-15-02





### Exhibit 9

Seminars were held inside a greenhouse. Four speakers covered related topics on growing strawberries and other small fruit.



Exhibit 10

Strawberry production in gutters for the fall. This was part of the tour on 11-15-02. The gutter allows for a higher density of plants in the tunnel and ease of harvest.





### Exhibit 11

Students from the University of Maryland at field day. The row covers were pulled back to show the research plants on different mulches. Dr Swartz explains some of the research being conducted.

### Attachments

Welcome sheet for field day  
Ads run in papers  
Haygrove tunnel layout of all projects  
Data collection sheet  
Newspaper article  
DCF 2002 News Letter





Welcome to Davon Crest Farms field day “August in November”. Today’s event is the result of many organizations working together. We would like to give our thanks to the following sponsors: University of Maryland coop ext (Bryan Butler), Northeast Sustainable Agriculture Research and Education (SARE), Maryland Agro-ecology Grant, Haygove Tunnels, DeCloet Greenhouse Systems (Mickey Laird), Five Aces Breeding (Harry Swartz). Along with Bryan Bulter there will be 3 other guest speakers. Brent Black, USDA; Fumiomi Takeda, USDA; and Kathy Demchak, Penn State University. Other guests to mention assisting in the program are Mike Newell, University of Maryland Wye Research, Henry Hilleary of Hilleary Associates Inc, Mike Papas of Eco Farms and John Hockmuth of Davon Crest Farms. There are four main areas set up for your visit. The first is the new Haygrove Tunnel where parking and registration is located. The second is the DeCloet high health greenhouse. The third area is the lab, where you will be able to see plants being split and placed into new containers. The last area where the seminars are being held is in greenhouse 15 across from the entrance of the high health greenhouse. This is also where lunch will be served. A bus will shuttle you between the areas. If you prefer, you can walk. We ask you to leave your vehicle in the parking area near the tunnel. Please refrain from smoking around the tunnels and greenhouses. Smoking is permitted in the parking area and next to the office near the port-a-john.

Today is a working day for us as we make the transitions from summer production to winter production. You will see some projects still in progress and the clean up of others going on. The purpose of this day is to share with you our experience with tunnels, the success and failures. The Haygrove tunnels have given us a new set of management rules to follow. I planted many crops to see how long I could grow crops into the winter. I regret I do not have a DeCloet beside the Haygrove to compare the two growing vegetables. Bryan Butler has a DeCloet tunnel in Mt Airy, Maryland with the high-density system growing strawberries and vegetables. He plans to share his experience with that tunnel. Each tunnel design has unique features, which must be matched with your growing needs. I feel I now have enough experience to help you decide what tunnel best matches your needs.

Along with the high-density gutter system, you will also see our earth gutter system. This has been developed for growing strawberry runners in the Haygrove tunnel. This year we will plant 4 more acres of strawberry plants in earth gutters for tip production. Production will still not match sales requests. If you are interested in Maryland certified virus free strawberry plugs this year I suggest you see me for information on our Maryland certified strawberry plug guarantee program for 2003.

Hope you enjoy the day. Please feel free to ask questions on our plant or vegetable production program. Mike Papas will be available to discuss contract growing out of season vegetables for restaurant sales. He was asked to come so that you could experience a complete package. This is not just about growing crops but selling also.

To our valued customers, we hope the year has been kind and look forward to serving you next year.

David and Sharon Lankford  
Davon Crest Farms, LLC



HAYGROVE TUNNELS-28x200 ft.  
Vegetables in High Density Tunnels either  
in pots or in high density gutter trees.  
Tomato, Radish, Beets, Cucumbers,  
Rosemary, Dill, Kale, Onions, Turnip  
Spinach, Lettuce

Vegetables- EarthGutter or in Soil with  
Landscape Fabric  
Asparagus planted in June  
Peas, Tomatoes, Squash.  
planted in September

Raspberry Tunnel-August Planted in Soil or Pots  
Anne  
Jaclyn-----note second crop on primocanes  
Deborah  
Josephine  
Caroline

EarthGutters for Plant Production  
Chandler June and September planted

EarthGutters for Plant Production

2 Rows Primetime  
3 Rows Sweet Charlie

2 Rows Sweet Charlie  
2 Rows Chandler

**SARE GRANT-bold and underlined**  
**Designed for Fall Fruit Production**

**1 Row Everest Everbearer**

**1 Row Sweet Charlie**

Al vs Straw vs White vs Black Plastic Mulch  
Butler vs Matted Row/ TC vs Plug

2 Rows Everest in EarthGutter/ Sept pltd

**1 Row Plasticulture Everest**

**1 Row Plasticulture Sweet Charlie**

Chandler Runners  
Sweet Charlie and Others by Plug  
Sweet Charlie Mother Plants.

# EVEREST

		Rep 1 runners	Rep 1 flowers	Rep 2 runners	Rep 2 flowers	Average Runners	Average Flowers
TC Everest	Aluminum	0.8	25.8	3	38	1.9±1.1	30.9±7.1
TC Everest	no mulch	3.6	6.7	2.3	20.5	3.0±.07	13.6±6.9
TC Everest	White	4.2	21	2.2	39.5	3.2±1.0	30.2±9.3
TC Everest	Straw	0.8	24.6	4.4	21	2.6±1.8	22.8±1.8
	Average					2.7	24.6
standard	no mulch	0	2.6	0	7.5	0	5.0±2.4
	Ribbon row	0	5.4	0	5.2	0	5.3±.01
	Butler style	0	3	0	5.8	0	1.4±1.4
	Average					0	4.9

# SWEET CHARLIE

TC Sweet Charlie	Aluminum	16	6	11
TC Sweet Charlie	no mulch	0	2	1
TC Sweet Charlie	White	10	37	23.5
TC Sweet Charlie	Straw	13	25	19
	Average			13.6
standard	no mulch	0	7	3.5
	Ribbon row	0	0	0
	Butler style	0	0	0
	Average			0.9



## COMING EVENTS

To have your event listed in this space, contact the newspaper at (800) 634-5021, fax us at (410) 822-5068, or send it by e-mail to [kinsley@americanfarm.com](mailto:kinsley@americanfarm.com).

### OCTOBER 26

Chrysanthemum Show sponsored by Chesapeake Chrysanthemum Society, Brookside Gardens Visitor Center, Wheaton, Md., Oct. 26-27. (301) 949-8230.

### OCTOBER 27

International Research Symposium: "Invasive Plants Global Issues, Local Challenges," Congress Plaza Hotel, Chicago, Ill., Oct. 27-30. (847) 835-8261.

### OCTOBER 29

High tunnels open house, Cramers' Posie Patch, Elizabethtown, Pa. (877) CRAMERS.

### OCTOBER 30

South Jersey Nursery Meeting, Extension Education Center, Millville, N.J., 8:30 a.m.-3 p.m. (856) 451-2800.

### NOVEMBER 8

Dance for Plants Auction, Delaware Center for Horticulture, Wilmington, Del., 7-11 p.m. (302) 658-6262, Ext. 22.

### NOVEMBER 12

Turf & Grounds Exposition, Convention Center at Oncenter, Syracuse, N.Y., Nov. 12-14. NYSTA, (800) 873-8873.

ALCA Green Industry Conference & Expo, Opryland, Nashville, Tenn., Nov. 12-17. (201) 703-3600.

### NOVEMBER 13

Hanson Lecture: The Artist in the Garden: Documenting Plants through Images in Arts and Crafts by Dr. Arthur Tucker, Delaware Center for Horticulture. Wilmington.

(888) 303-3685.

### NOVEMBER 15

Small Fruit and High Value Vegetable Crop Field Day and greenhouse demonstration, Davon Crest Farm, Hurlock, Md. Bryan Butler, (410) 386-2760.

Greenhouse Profitability Seminar, OFA Fall Grower Seminar, Griffin Greenhouse and Nursery Supplies, 5612 Pride Road, Richmond, Va., (614) 487-1117.

Production of Vegetative Annuals, Salisbury, N.C. Bryan Whipker, (919) 515-5374.

### NOVEMBER 18

Basic Exam for Certified Professional Horticulturist, Department of Agriculture, Annapolis, Md., 1:30-4:30 p.m. Also, Advanced CPH Exam — Composting and Compost Utilization, 1-4:30 p.m.

### DECEMBER 2

South Jersey Landscape Meeting, Gloucester County Office of Government Services Auditorium, Clayton, N.J. Jerry Frecon, (856) 307-6450.

Virginia Flower Grower Association Tour to the North Carolina State University Poinsettia Open House in Raleigh, N.C., departing from Richmond, Va. Joyce Latimer, (540) 231-7906.

### DECEMBER 8

Annual conference American Society of Consulting Arborists, Hyatt Regency, Bethesda, Md., Dec. 8-11. (301) 947-0483.

### DECEMBER 10



# Md.'s Davon Crest Farms make winter into summer

By CAROL KINSLEY

It will seem like August in November as Davon Crest Farms LLC hosts a Small Fruit and High Value Vegetable Crop Field Day Nov. 15 in Hurlock, Md. Growers of inedible crops, too, may find host David Lankford's production system interesting.

Visitors will see how the 1 acre Haygrove Tunnel extends production into cold weather. On Lankford's farm, its eight bays protect different crops such as raspberries, vegetables, strawberries and flowers. The vegetables include five

different kinds of tomatoes, eight kinds of lettuce, peppers, herbs, cucumbers and other surprises.

Haygrove is the leader in tunnel design in England, explained Lankford, who was so impressed with the tunnel's capabilities that he agreed to be a distributor for the company. The unique design of the tunnel allows for covering almost any shape or size field. The multi-bay tunnels are moveable and easily erected over an established crop, whether small fruits, vegetables or small trees.

"Tunnels are huge in Europe. There are thousands of acres in use

there," Lankford said.

The tunnels are for season extension, Lankford said. They can protect a crop from late frost in the spring, or an early freeze in the fall, but they aren't designed to offer protection through the winter. They're not built for heavy snow, although with enough warning, the plastic cover can be removed, Lankford said.

The plastic is held on by ropes. If

it gets too hot inside, the plastic can be rolled up to ventilate. Cost is 58 cents per square foot, which includes steel, plastic and rope but not labor.

Davon Crest Farms has been working with tunnels for more than 10 years, Lankford said. Once a vegetable farm, Davon Crest is in gradual transition to greenhouse production. At first, the family grew its own vegetable transplants. Then

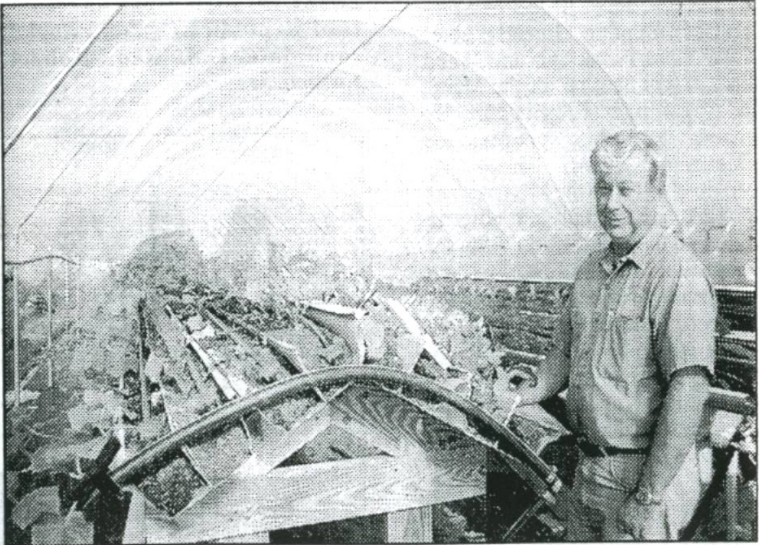
*Continued on Page 12*

## Bunting honored ...

*Continued from Page 7*

and family-owned business for more than 130 years. Bunting's accomplishments include participation in LEAD Maryland (the state's agricultural leadership development program) and appointment by Gov. Parris Glendening to the Maryland Agricultural Commission. He serves as secretary of the MNLA. As the recipient of the Carville M. Akehurst award, Bunting becomes the MNLA's nominee to the Southern Nursery Association's David Laird

award. The MNLA hosted its annual fall workshop Oct. 17 at the Perennial Farm in Glen Arm. Owner Rick Watson and sales manager Ed Kiley welcomed more than 100 guests to tour the nursery, enjoy a hearty dinner and participate in a short educational program. Guest speaker, Bob Cook of Dale Carnegie Training, delivered a humorous and motivational presentation on enthusiasm and developing and maintaining a positive attitude in the face of adversity.



On Nov. 15, David Lankford will welcome visitors to Davon Crest Farms in Hurlock, Md., to see what can be done in a Haygrove Tunnel such as the one behind him. (Photo by Carol Kinsley)



## Davon Crest ...

Continued from Page 8

they began growing transplants for others.

"The University of Maryland asked us to grow strawberries for transplanting using new technology. It was a natural transition, not all at the same time," Lankford said. Of 60 tillable acres on the farm, 4 acres are now under plastic.

Lankford said he and Bryan Butler, Extension educator in Carroll County, Md., were among the first "tunnel people" in the area.

"I'd razz him that he was 10 years behind," Lankford said. "I invited him here to see what we do."

Butler has taken Lankford's ideas and made them work economically, realistically, Lankford said.

One novel idea lets Lankford grow 32 rows of plants in 26 feet of space, and still have room to walk through the tunnel. A 30-foot wide greenhouse holds 40 rows, or an acre's worth of plants in a tenth of an acre, he said.

Lankford said his inventions and innovation grew out of necessity.

"It was an attempt to get more plants — maximum output from the structure. I tried vertical stacking, but it was totally unsatisfactory. It had to be horizontal, which meant there was limited width. The answer was not one row with an aisle, but multiple rows with a single aisle."

He uses 6-inch rain guttering, five rows high, set at an angle so the plants are easy to cut or pick. The gutters are up off the ground to reduce bending. Cucumbers or vines grow in the lowest gutter and are allowed to trail to the floor. No heat, artificial light or electricity is needed. It's assumed the crop is already irrigated, Lankford said.

At a sneak preview visit in October, the gutters were fully of healthy plants, including lettuce that had already been cut once.

"We're not interested in large production of vegetables and fruits," Lankford explained. "Our focus is plants. There appears to be a need, with the university, to go out and explore the possibilities and to integrate them into the market." Davon Crest also has a tissue culture lab with year round production of strawberries, raspberries, black raspberries, blueberries and blackberries.

"We go with a microscope to the meristem, harvesting the growing point — 0.005 inch. We divide that. There are four stages: harvesting and establishing the material; propagating (multiplying) the media; finishing the media into plants; and removing them to a tray to be rooted and established as plants.

"Our principle is to get them started with state-certified 'clean' plants, so if the parent is clean, the offspring are

'essentially clean,'" Lankford said. The plants eventually are grown in a "high health" greenhouse, and the daughters of those plants are sold.

Davon Crest has a customer list of about 600, including small homeowners who order five or six of the brambles.

In addition to the Haygrove tunnels, Lankford uses DeColet free standing, individual units that are small greenhouses.

The Nov. 15 field day will feature an educational seminar from 10 a.m. until noon, repeated from 1 to 3 p.m., with a pork barbecue buffet for lunch.

The four speakers include Kathy Demchak of Pennsylvania State University, discussing raspberry production in tunnels; Fumiomi Takeda of the USDA in West Virginia, an expert on strawberry production in greenhouses out of season; Brent Black of the USDA Agricultural Research Center in Beltsville, discussing the use of light filtration; and Mike Newell of the Wye Research and Education, who has replaced Bob Rouse in strawberry research there. To register for the field day, call Bryan Butler at (410) 386-2760 or send an e-mail to: [bb113@umail.umd.edu](mailto:bb113@umail.umd.edu).



Mark J. Rothschild, left, entomologist with the Maryland Department of Agriculture's Plant Protection and Weed Management Section, visits with David Lankford at Davon Crest Farm.

*(Photos by Amy Conquest Taylor)*

Want to grow crops & flowers out of season?

**Don't Miss This Field Day!**

## AUGUST IN NOVEMBER

Small Fruit & High Value Vegetable Crop Field Day

November 15th - 8 a.m. - 4 p.m.

Davon Crest Farm, Hurlock, MD

### SEMINARS

10 a.m. - 12 Noon OR 1 p.m. - 3 p.m.

Lunch Served at Noon

Pork BBQ Buffet

RSVP Requested call Bryan Butler

@ the Univ. of MD Coop. Ext.

410-386-2760 or email: [bb113@umail.umd.edu](mailto:bb113@umail.umd.edu)

**GOT DEER PROBLEMS?**



Davon Crest Farms, LLC

## 2002 News Letter

## August in November

## A Small Fruit and High Value Vegetable Crop Field Day

Davon Crest Farms, LLC is honored to be involved with Bryan Butler from the University of Maryland for their August in November field day. Many organizations are involved in the effort. Come see the 1 acre Haygrove Tunnel with 8 bays of different crops such as raspberries, vegetables, strawberries, and flowers. The vegetables will include 5 different kinds of tomatoes, peppers, lettuce, herbs, cucumbers, and many other surprises. See our tis-



sue culture lab and then view our one acre high health propagation house. The high health house has strawberries, grapes, raspberries and blueberries all being grown in soilless media. A morning seminar and a repeat one in the afternoon will be held to cover some of the new research, finding better ways to produce high quality transplants and getting more out of the high value crops.

Date: November 15th 2002

Time: 8 am to 4 pm

Lunch: Noon to 1 pm

free pork barbeque buffet

Education seminar

10 am to 12

1 pm to 3 (repeat)

Sponsors:

University of Maryland coop ext  
Northeast Sustainable Agriculture  
Research and Education (SARE)  
Maryland Agro-ecology Grant  
Haygrove Tunnels  
DeCloet Greenhouses Systems  
Davon Crest Farms, LLC  
Five Aces Breeding

RSVP appreciated : Bryan Butler

410-386-2760

e-mail bb113@umail.umd.edu



## Inside this issue:

Maryland names new raspberry varieties	2
New releases from North Carolina	2
New strawberries from Edward Vinson LTD	2
Strawberries and Row Covers	2
Tunnels extend season	2
Introducing Haygrove Tunnels	3
What's New	4

## Special points of interest:

- ♦ UMD holding field day
- ♦ Introducing "Haygrove tunnels"
- ♦ Look for added varieties in small fruits.
- ♦ Now taking orders for grapes for 2004

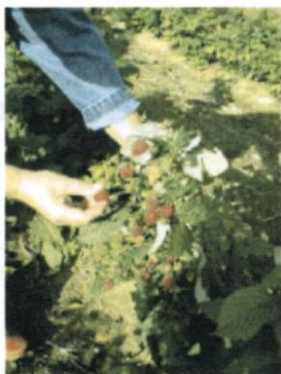


## Maryland Names three more raspberry Varieties

Dr. Harry Swartz from the University of Maryland has announced the release of 3 new cultivars. QEG-f1 has been named Jaclyn (patent pending). Jaclyn is a early fall bearer. Berries are large and very flavorful. During the high heat of the summer 2002 the fruit showed no sun scalding and maintain the high sugar level. Plants are productive with dark purple fruit. Fruit size remain consistent for most of the fruiting cane.



The second release is ND-f1. This variety will be released under a non-propagation agreement. Being call Deborah this cultivar is a very late fall bearing. Yield is very good with great flavor and size. Sugar content does drop off in heat. This variety has shown adaptation to tunnel production.



The third released variety is OAY-f1. It will be named Alice. Alice is a yellow fall bearer. Production exceeds Anne but flavor is not as good. This variety will be sold with a non-propagation requirement.

## North Carolina Raspberry releases soon to be available.

DCF has signed a propagation agreement with Jim Ballington of North Carolina State University. Under the agreement, Raspberry plants will be produced for trial out of our high health system. The trials will be controlled by North Carolina University. Once released, DCF will be able to provide you with the newest raspberry varieties from Jim Ballington breeding program.

## DCF has two new varieties from Edward Vinson to trial

Edward Vinson Limited has sent to DCF new material for trial. The new material is 105 and 95. Both are advance selections from the Everest family. With day neutral qualities these have excellent possibilities in the northeast and for tunnel production out of season in the fall. A limited supply will be available in the fall of 2003 for trail purposes only.



## Use of Tunnels extend Harvest Season

Davon Crest Farms has been working with tunnels for over 10 years. This has led us to find systems that work for us. We have developed the high density system for tunnels. Currently we have over 50,000 feet of guttering growing many small fruit plants. This year we started working with earth gutters for fruit and strawberry runners production. Our tunnels do have heat for the one or two severe nights during the season on the eastern shore. Last October (2001) we had a very unusual frost on the 10th of Oct. This killed all our field production. In our tunnel, even with the end open, the crop grew until late November. During the heavy rain the crop continued to produce high quality fruit. Plastic beds can be made, ground cover can be used or you can just plant in the soil. Two crops can be grown, one early and one late to maximize your investment. Let us help you decide what tunnel is best for you. Call 1-800-207-9862



## Strawberry Plugs And Row covers

For most of us our strawberry plants are now planted and getting ready for winter. Shipping was delayed this year for several reasons. The main problem was the excessive heat wave. Chandelers need to grow through the winter, to get the economic yield necessary to pay for the investment. Each winter is different. Planting dates have been established to match the normal winter. Protecting strawberry plants on plastic through the winter is very important and especially Chandler. Research on the use of row cover shows that yields increase when managed correctly. The question we get all the time is, when to cover the plants. There is no set answer. If winter comes early in your region then the covers need to be pulled. If it should get hot again you may need to remove the cover to prevent heat damage. If you received your plugs later than your time slot then pulling your row cover early may help make up the time lost caused by late planting. The University of Maryland plans to study the photosynthesis of strawberry plants under covers. This study will help all of us understand how and when to cover strawberries.



# Haygrove Moveable Multi-bay Tunnels

Davon Crest Farms, LLC is pleased to announce the addition of the Haygrove product line. Haygrove is the leader in tunnel design in England. Their years of experience allows them to assist you in designing the tunnel that best suits your needs. Their unique design allows for covering almost any shape or size field. Crop extension, wildlife or rain protections are just a few of the uses of a Haygrove tunnel. The design allows for many different crops to be grown un-



*Dwarf cherry trees with protective netting on tunnel.*

der the tunnel. Dwarf fruit trees, small fruit and vegetables are just a few of the crops that benefit from the tunnel. Call for a custom quote and extend your growing season and income.



*Tunnel being erected over an established crop*



*Strawberries with vents open.*

Haygrove tunnels are moveable and expandable to meet almost any field size and shape. Bay width is from 16 feet to 26 feet. Many different covers are available to adjust light to match your crop requirements. Tunnels can be moved for about \$1,500 per acre. Cost of the high grade steel is \$0.58 per square foot.

Davon Crest Farms has ordered several tunnels kits. These tunnels are 200 feet long and have three bays 26 feet wide. The selling price is \$8,580.00 and will be in inventory by the end of October. Price includes all hardware and plastic. Personal from DCF come to your sight and instruct your crew in putting up your tunnel at no extra charge. Only freight will be extra. If interested in one of these kits please call before the container load is sold out.



*Strawberries grown in tunnels.*



## Davon Crest Farms, LLC

Davon Crest Farms, LLC  
6635 Pine Top Road  
Hurlock, Maryland 21643

Phone: 800-207-9862  
Fax: 410-943-0445  
Email: [davoncrest@shorennet.net](mailto:davoncrest@shorennet.net)

We're on the  
Web!  
[davon-crest-farms.com](http://davon-crest-farms.com)

"Clean Start, MD"



## Do not miss August in November

**University of Maryland Coop Ext,  
Maryland Agro-ecology  
& Northeast SARE**

**Hold field day at Davon Crest Farms  
on November 15th 2002 from 8 am till  
4 pm. Lunch will be served.**

Please join us to view the new Haygrove tunnel now at Davon Crest Farms, LLC. A crew of 9 set the one acre tunnel up in two working days. See the high density strawberry and vegetable bays. Join us to look at the new Earth Gutters system that is completely recyclable, with no herbicide. Enjoy fresh strawberries and raspberries in November.



*Strawberries picked 12/15/2001 in a tunnel*







6635 Pine Top Road  
Hurlock, MD 21643

**DAVID LANKFORD**  
**PRESIDENT**

CUSTOMIZED QUALITY  
TRANSPLANTS & STRAWBERRY PLANTS

**410-943-8792**

**1-800-207-9862**

email:[davoncrest@shorennet.net](mailto:davoncrest@shorennet.net)  
[www.DAVON-CREST-FARMS.com](http://www.DAVON-CREST-FARMS.com)