

# Ag Notes

Harford County Newsletter

UNIVERSITY OF  
MARYLAND  
EXTENSION



## December 2019

The Extension Office will be closed on  
December 25 and January 1

University of  
Maryland Extension

Harford County  
Agricultural Center

Suite 600

3525 Conowingo Rd.

Street, MD 21154

(410) 638-3255

M—F 8:00 a.m.—4:30 p.m.

[Extension.umd.edu/harford-county](http://Extension.umd.edu/harford-county)

[facebook.com/HarfordAg](https://facebook.com/HarfordAg)

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### INSIDE THIS ISSUE:

Grain Marketing Update	2
Corn Variety Trials	2
Soybean Plant Population Research	3
Grated Tomato Research	4
Central MD Vegetable Growers Day	5
FSMA Produce Safety Training	5
Women In Ag Conference	6
Annie's Project	6
Evaluating Horse Hay	6
Internship	7
Farm Transfer Workshop	7
Farm Trucking Forum	7

## Hello, Harford County!

I say it every year; but again, it's hard to believe we're through another farming season! I hope that 2019 treated you well, and wish for an even better 2020.

An iconic symbol of this time of year is of course the Christmas tree; which has an interesting history and agricultural impact. Christmas trees are a renewable and recyclable resource. Each year, the US produces about 30 million Christmas trees; of which, nearly all (95%) are sold directly off the farm to consumers. At any given moment in the US, there are approximately 350 million Christmas trees growing on farms, each planted by a farmer. On average it takes seven years to bring a tree to market, but could be as short as four or as long as 15. Christmas tree farming commands a significant amount of time, work, risk, and money invested in that tree.

The top-producing states include Oregon, North Carolina, Michigan, Pennsylvania, Wisconsin and Washington. Maryland has several Christmas tree growers in each county; you can use <https://www.marylandchristmastrees.org/>

to see a list of Christmas tree growers by county, as well as [marylandsbest.net](http://marylandsbest.net).

The use of evergreens to celebrate the winter season dates back more than 2,000 years, and the first decorated Christmas tree appeared in Riga, Latvia in 1510. Other types of trees, such as cherry and hawthorns, were used as Christmas trees in the past. Christmas trees were not traditionally illuminated until the 17th century (candles, then lights). In 1882, Edward Johnson, who was Thomas Edison's personal assistant, was credited with coming up with the idea to light Christmas trees with a stand of lights rather than candles. By 1900, the practice of lighting and decorating the tree was popular.

I hope that you enjoy a Maryland-grown Christmas tree in your house this season! I wish you and your family a Merry Christmas and Happy Holidays!

Until next time,  
-Andy



## Grain Marketing Update

This breakfast meeting will include speakers on various topics in grain marketing. Come have breakfast and discuss this year's strategies for marketing your grain. Speakers include marketing specialists, traders and more. Topics include local and national grain outlook for 2020, tax considerations, crop insurance and the farm bill.

In person: Chesapeake College, Wye Mills, MD Higher Education Center HES-110. Contact [sdill@umd.edu](mailto:sdill@umd.edu) or call (410) 822-1244.

Broadcasted to: Harford County Extension Office. Contact: [akness@umd.edu](mailto:akness@umd.edu) or call (410) 638-3255. This meeting is free, but please register ahead of time.

*January 10*

*8–11:45 a.m.*

*Harford County  
Extension Office*

## 2019 Corn Variety Trial Results

*Dr. Nicole Fiorellino, Extension Agronomist  
University of Maryland, College Park*

The University of Maryland offers a fee-based, corn hybrid performance testing program to local and national seed companies. The results from these replicated trials provide agronomic performance information about corn hybrids tested at five locations in Maryland considered representative of the state's geography and weather conditions. During 2019, 56 hybrids were tested using three maturity groups: early season (17 hybrids), mid-season (14 hybrids), and full season (25 hybrids). Check hybrids were included in each of the five tests.

This year's weather was welcomed compared to last year's extreme precipitation. As reported in the results document, there was much less rainfall in 2019, with precipitation at all locations very similar to the long term average for each location. We experienced some drought at the end of summer (August through September in some locations), but

yields did not seem to be impacted by this. Averaged over the five locations, yield for early (17), mid (14), and full (25) season hybrids was 196 bu/ac, 199 bu/ac, and 206 bu/ac, respectively. Compared to 2018, these yields were +11%, -1%, and +5%, respectively, to those observed for early, mid, and full season hybrids this season. Average yield for all hybrids tested at all five locations was 201 bu/ac or 10 bushels shy of the record yield of 211 bu/ac in 2011. Two locations had average yield greater than 210 bu/ac (Keedysville – 220 bu/ac and Clarksville – 236 bu/ac) with Clarksville average yield surpassing the record best location yield of 232 bu/ac at attained at Wye in 2016.

A list of hybrids and their performance across the state and at each individual location is presented in the results document, which can be downloaded from the MD Crops website at [psla.umd.edu/extension/md-crops](https://psla.umd.edu/extension/md-crops). You may also request a printed copy from the Extension office.

### SAVE THE DATE: FEBRUARY 11, 2020

The *Harford County Mid-Winter Agronomy Meeting* will be held on February 11 at Deer Creek Overlook. Topics will satisfy pesticide applicator credits and nutrient management voucher training. Look for details in next month's newsletter. Register by calling (410) 638-3255 or email [akness@umd.edu](mailto:akness@umd.edu).



## Effects of Plant Population on Yield in Soybeans

Kelly Nichols, Agriculture Agent Associate & Matt Morris, Agriculture Agent  
University of Maryland Extension, Frederick County

Soybean population plots were planted on two farms in Frederick County near Thurmont and Tuscarora on June 4 and 7, respectively. Planted populations were 80, 100, 120, 140, and 160 thousand plants per acre (ppa). The Thurmont plots were planted on 30-inch spacing with three replications. The Tuscarora plots were drilled on 7.5-inch spacing with four replications.

On July 1, initial population counts were taken at both farms. At the Thurmont farm, plots ranged from 79 to 88 percent germination. At the Tuscarora farm, plots ranged from 88 to 98 percent germination (Table 1). This is consistent with the germination percentage of the seed.

Plots were harvested on October 3 and October 24 at the Tuscarora and Thurmont farms, respectively. The average yield for each farm individually and combined were calculated (Table 2). Yield ranged from 61 to 70 bu/A. Overall, yield differences between the populations were within three bu/A. While a complete statistical analysis has not been conducted, the trend of the data indicates that planting at a lower population, such as 120,000 or 100,000, would allow for reduced seed costs while still maintaining optimum yield.

The variety used at the Thurmont farm was Pioneer

P37A69, which retails for \$71.00 per unit of 140,000 seeds. The variety used at the Tuscarora farm was Hubner 38-27R2X, which retails for \$59.00 per unit of 140,000 seeds. (Note that these costs do not include any discounts or seed treatments.) At the time of harvest, soybeans were \$9.51/bu on the Chicago Board. The net dollar amount was calculated by subtracting the seed cost from the gross amount per acre. At the Thurmont farm, the 100,000 planting population had the highest net per acre at \$598.19, while the 140,000 and 160,000 populations had the lowest net, around \$581/A (Table 2). At the Tuscarora farm, the 120,000 planting population had the highest net per acre at \$560.13, while the 160,000 population had the lowest net at \$515.76/A.

Planting at lower populations, around 100 to 120 thousand ppa, may not reduce yield or net per acre, indicating that this is a potential for cost savings on farms. We are planning to conduct this study again next year at more locations around the state. To stay up to date with this research project, visit <https://go.umd.edu/FCagresearch>.

**Table 1.** Initial Population Counts, July 1.

Planted Population (1000 plants per acre [ppa])	Thurmont Farm		Tuscarora Farm	
	Initial Population (1000 ppa)	% Germination	Initial Population (1000 ppa)	% Germination
80	63	79	71	88
100	85	85	88	88
120	95	79	117	98
140	123	88	124	88
160	135	84	153	96

**Table 2.** Average Yield adjusted to 13.5% Moisture and Net Profit in \$/A.

Planted Population (1000 plants per acre)	Yield (bu/A)			Net \$/A	
	Thurmont Farm	Tuscarora Farm	Both Farms	Thurmont Farm	Tuscarora Farm
80	67	61	64	596.92	548.18
100	68	63	65	598.19	554.78
120	69	64	66	595.33	560.13
140	69	63	66	581.39	542.89
160	70	61	65	581.71	515.76



Jerry Brust, Fruit & Vegetable IPM Specialist  
University of Maryland, College Park

Tomatoes are grafted by joining the top part of one plant (the scion) to the root system of another plant (the rootstock). The resulting plant is usually more vigorous and productive. Many studies have been conducted over the last ten years that show the benefits of using grafting for soil disease control in tomato production, but there is not much research that examines the influence of rootstocks in no-disease field tomato production systems. In general, vegetable grafting can increase yield by improving crop tolerance to abiotic stresses because of the plant's ability to increase water and nutrient uptake via a more vigorous rootstock. I looked at what would be the benefit, if any, of grafting four different tomato varieties into a field that had not had any vegetables in it for at least 4 years and had no history of soil disease problems. The varieties were: *Red Deuce*, *Red Mountain*, *Big Beef* and *Mt. Fresh+* onto the rootstock of *Maxifort*.

**Methods:** Grafting treatments consisted of two combinations; a scion/rootstock graft and a non-grafted control using the same variety. Approximately seven weeks after grafting, all grafted and non-grafted seedlings were transplanted into the field on 3rd May, 2019. Before transplanting, the field was fertilized and black plastic mulch with drip irrigation was laid forming 8 rows 100 feet long. There were three replications of 10 tomatoes of each variety grafted and 10 plants non-grafted spaced 2 feet apart within a row. Eight harvests took place starting on July 9 and continuing on July 12, 15, 18, 23, 29 and Aug. 1 and 8. Yields were subjected to a 2-factor ANOVA looking at variety (4) by grafted or not (2) and means were separated using Tukey HSD test. ANOVAs with p values equal to or less than 0.05 were considered significant as were mean separation tests.

Leaf tissue samples were taken at first flower bud and every two weeks throughout the study. Fruit harvests were conducted two-three times per week and separated into marketable and non-marketable fruit. Non-marketable fruit categories consisted of yellow shoulders, uneven ripening, cat-facing, blossom end rot, fruit cracking and "other." Fruit number and weight were recorded.

**Results:** Overall, the total marketable fruit weight for grafted plants (mean of 15.2 lbs/plant) had significantly greater yields compared with non-grafted plants (13.7 lbs/plant). All varieties that were grafted had on average 11% more marketable fruit compared with their non-grafted variety. Early yields (9 and 12 of July) showed no differences between grafted and non-grafted plants for any of the varieties, although the variety *Red Mountain* significantly out-yielded *Big Beef* and *Mt. Fresh+* by almost 93%. For the main harvests (15-29 of July) grafted plants were significantly greater in marketable yields (13.3 lbs/plants) compared with non-grafted plants (11.8 lbs/plant). There was a significant difference between three of the varieties (overall mean of 12.9 lbs/plant) vs. *Mt. Fresh+* (11.3 lbs/plant). For the later harvests (1 and 8 of August) yields for grafted plants were significantly greater (1.67 lbs/plant) vs. non-grafted plants (1.05 lbs/plant). For this harvest period, *Red Deuce* had significantly greater yields (1.86 lbs/plant) than *Big Beef* (0.95 lbs/plant) or *Mt. Fresh+* (1.30lbs/plant).

The all-important nutrient; potassium (K), was 22.2% greater in grafted plants vs. non-grafted plants in July, but that was about the only difference between grafted and non-grafted plants for nutrient levels.

Early harvests had a mean of 5.2% unmarketable fruit while main harvests had a mean of 11.3% unmarketable fruit and the final harvests had a mean of



5 22.6% unmarketable fruit. There were no significant differences in unmarketable fruit between grafted and non-grafted plants or among any of the varieties.

**Conclusions:** I was encouraged when I saw that the grafted plants out yielded the non-grafted plants by a small but significantly consistent amount. However, when I applied some basic economics to the results looking at the difference in costs of the grafted vs non-grafted transplants and the return on yield, I found I *lost* \$0.21 per grafted plant vs. a non-grafted plant. If you multiplied that by 5,000 plants/A, that would be an estimated loss of around \$1050/A between using grafted vs. non-grafted plants in this particular trial for this year. More trials will be needed in the coming years to see if this trend holds or if using grafted plants in non-stressed fields can more than pay for itself.

Overall a couple of things surprised me. The first was that *Mt. Fresh+* did not do as well as the other varieties;

this variety has always performed well for me in my studies and for some reason this year it did not. The second thing was the quality of the tomato fruit during the main harvest period, basically most of July, was outstanding. Often times in the past my unmarketable fruit reached 25-35% of my harvested fruit in July, but this year the mean was only around 11% - amazingly low and using grafted plants did not reduce the unmarketable fruit significantly compared with non-grafted plants. Part of the reason for this I think was the great reduction in rainfall that led to low disease incidence in the field, but also to the excellent fruit set in both grafted and non-grafted plants. Grafting seems to help with the yields or quality of the fruit when plants are under some kind of stress, such as flooding, high salts, soil diseases, soil nematodes, etc. If environmental conditions are good, the grafting does not seem to help as much, as shown in this study.

## Central Maryland Vegetable Growers Day

*January 23*

9—3:00 p.m.

*Friendly Farm Restaurant  
Upperco, MD*

Commercial vegetable growers are invited to the 2020 Central Maryland Vegetable Growers Meeting on Thursday, January 23, 2020 at Friendly Farm Restaurant. Many topics will be covered in connection with vegetable and fruit production in Maryland. Doors open at 8:30 and the program starts at 9:00 a.m.

This meeting will serve as recertification for Maryland Private Pesticide Applicators, as well as select Pennsylvania credits. In addition, growers who attend specified presentation sessions can renew or receive the required MDA Nutrient Applicators Voucher.

To register online, go to <https://vgd2020.eventbrite.com>. Alternatively, call (410) 887-8090 or email [ecrowl@umd.edu](mailto:ecrowl@umd.edu). If paying by check, make payable to "BCEAC" and mail to University of Maryland Extension, 1114 Shawan Rd., Cockeysville, MD 21030. Registration is \$22 in advance and \$30 at the door. Morning refreshments and lunch is included with registration. If you require any special needs to addend this program, please call (410) 887-8090 at least two weeks in advance.

## FSMA Produce Safety Training

Food Safety Modernization Act (FSMA), Produce Safety Rule training will be offered to growers on January 24 at the Harford County Extension Office.

Who should attend? Farmers who...

- Need to comply with the FSMA produce safety rule, e.g., producers growing leafy greens, tomatoes, berries, cucumber, etc.
- Are exempt from the rule but need to comply due to buyer requirements.
- Want to remain up-to-date with the FSMA regulations and how to comply with them.
- Need to attend a food safety training to maintain a food safety certification.

What will you get from attending this workshop?

- In-depth understanding of the requirements of the FSMA Produce Safety Rule.
- Completion certificates required to comply with the rule.
- Guidance regarding food safety risks and how to mitigate them.
- Explanation of the MD Department of Agriculture's role in implementing the rule.

Cost of the class is \$25. You can register [online](#) or contact Deanna Baldwin at (410) 841-5769.

*January 24*

8—5:00 p.m.

*Harford County  
Extension Office  
Street, MD*

## 2020 Mid-Atlantic Women In Ag Conference

Women across the region coming together to educate, engage, empower. **SAVE THE DATE: February 13, 2020** will mark our 19th Annual Mid-Atlantic Women In Agriculture Regional Conference.

The conference goals are to provide women involved in agriculture an opportunity to come together to learn about current issues and topics so they can make informed decisions concerning their agribusinesses and family lives. Sessions will cover topics in marketing, financial, production and legal. Back by popular demand, we will offer a preconference, February 12, 2020 with the option of two topics followed by the harness racing reception:

- (Option A) Mindfully Managing Stress and

Building Farm and Farm Family Resilience .

- (Option B) From Farm to Market: Tips and tools for promoting, displaying and selling produce.

**Location:** Dover Downs Hotel & Casino Dover, Delaware (room rates available). Details will continue to be added [www.extension.umd.edu/womeninag](http://www.extension.umd.edu/womeninag).

**Registration:** <https://2020wiaconference.eventbrite.com>. For further information, contact: Shannon Dill at [sdill@umd.edu](mailto:sdill@umd.edu) or (410) 822-1244.

*February 13*

*Dover Downs Hotel & Casino  
Dover, DE*

## 2020 Annie's Project



**ANNIE'S PROJECT**  
EMPOWERING WOMEN IN AGRICULTURE

*February 19- March 25*

*6—9:00 p.m.*

*Baltimore County Extension Office  
Cockeysville, MD*

Annie's Project focuses on the many aspects of farm management and is designed to empower women in overall farm decision making and to build local networks throughout the state. The target audience is farmwomen and women involved in agriculture with a passion for business, agriculture and involvement in the farm operation. Topics for the sessions cover the five areas of Risk Management – Production, Marketing, Financial, Legal Risk, Human Resources. This course is open to anyone interested in farm management practices.

Annie's Project is approved for FSA Borrower

Training, which includes an additional workbook requirement. Please contact Shannon Dill at (410) 822-1244 for more information.

For 2020, Annie's Project will be offered in six sessions at the Baltimore County Extension Office, 1114 Shawan Rd., Cockeysville, MD 21030. Time: 6:00 pm – 9:00pm. Dates: February 19, 26, March, 4, 11, 18, & 25th (April 1 snow date).

The \$75 course registration fee covers all meals and materials. Register [online](#) or contact Erika Crowl at (410) 887-8090.

**New online video resource:**

### *How to Evaluate Hay Quality*

University of Maryland Equine Extension Specialist, Dr. Amy Burk, has put together a new video lecture on *How to Evaluate Hay Quality* and what kinds of hay are best for different horses. View online at: [https://youtu.be/Wid5eW\\_0VIA](https://youtu.be/Wid5eW_0VIA)

Assessing Hay Quality for Horses

*Dr. Amy Burk  
Horse Specialist  
University of Maryland Extension*



## Internship Opportunity



**Harry R. Hughes**  
CENTER FOR AGRO-ECOLOGY



COLLEGE OF  
AGRICULTURE &  
NATURAL RESOURCES

The Harry R. Hughes Center for Agro-Ecology, Inc. and the Agriculture Law Education Initiative (ALEI) are seeking law and undergraduate student applicants interested in careers in agriculture,

environmental conservation, forestry, and/or policy for the 2020 Russell Brinsfield Agro-Ecology Summer Internship program. Two students—one law student at the University of Maryland Francis King Carey School of Law and one undergraduate at the UMD College of Agriculture and Natural Resources -- will be selected for this residential internship, which includes a competitive salary and free housing located at the Wye Research and Education Center in Queenstown, Maryland. For more information, visit: <https://agnr.umd.edu/research/research-and-education-centers-locations/harry-r-hughes-center-agro-ecology/russ>.

## Transferring The Farm To The Next Generation

**January 15**

8:30—3:00 p.m.

Calvert Grange  
Rising Sun, MD

As of 2017, the average age of principal farm operators in Maryland is 59, according to the USDA-National Agricultural Statistics Service's state

agriculture, illustrating the increasing need for the farming community to understand how to pass on the farm to the next generation.

Five winter workshops are split into two series designed around the idea that the succession process

requires financial planning, communication, and a general understanding of business planning and estate planning tools.

This first series of workshops, Transferring the Farm to the Next Generation, features speakers covering business planning, communication, and estate planning tools. This series will discuss business planning techniques, attached forested land, estate planning, tax basics, and more. Cost is \$15. Register [online](#) or call Paul Goeringer at (301) 458-5019.

## Trucking Forum

**January 20**

9:30—12:00 p.m.

Baltimore County Ag Center  
Cockeysville, MD

Hosted by Maryland Farm Bureau, come out to the Baltimore County Ag Center to learn about what's new with farm trucking

for 2020. Representatives from the State Highway Administration, Maryland State Police, and Maryland Vehicle Administration will be on-hand to answer questions.

- Updated Farm Trucking Manuals will be available.
- Discuss the issues facing farmers on rural roads and state highways.
- Hear firsthand how the latest trucking rules and regulations can affect your business.
- Ask questions about IRP's, permits, tags, moving equipment and weight limits.

Call (410) 922-3426 for more information.



*Great resources are just a click away!*

*Andrew Kness*

Andrew Kness  
Extension Agent,  
Agriculture and  
Natural Resources



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[akness@umd.edu](mailto:akness@umd.edu)  
[Extension.umd.edu/Harford-county](https://extension.umd.edu/Harford-county)



Back-issues of this publication can be found at: <https://extension.umd.edu/news/newsletters/657>

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For Students

General Interest

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# Ag Notes

Harford County Newsletter

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## Dates to remember

- 4 Dec.** [Winter Dairy Series](#). 10-2 p.m. Fawn View Farm, Pylesville. Free. Register [online](#) or call (301) 432-2767 x324.
- 5 Dec.** [Northern Maryland Field Crops Day](#). 9-3 p.m. Friendly Farm Restaurant, Upperco. \$22 in advance, \$30 at door. Register [online](#) or call (410) 887-8090.
- 10 Jan.** Grain Marketing Update. 8-11:45 a.m. Harford County Extension Office, Street. Free. Register by calling (410) 638-3255 or email [akness@umd.edu](mailto:akness@umd.edu)
- 15 Jan.** [Farm Transfer Workshop](#). 8:30-3 p.m. Calvert Grange, Rising Sun. \$15. Register [online](#) or call (301) 458-5019.
- 16 Jan.** Carroll County Winter Farm Meeting. 9-3 p.m. Westminster, MD. Registration information forthcoming.
- 20 Jan.** Farm Trucking Forum. 9:30-12 p.m. Baltimore County Ag Center. Call Maryland Farm Bureau (410) 922-3426.
- 23 Jan.** [Central MD Vegetable Growers Day](#). 9-3 p.m. Friendly Farm Restaurant, Upperco. \$22 in advance, \$30 at door. Register [online](#) or call (410) 887-8090.
- 24 Jan.** [FSMA Produce Safety Training](#). 8-5 p.m. Harford County Extension Office, Street. \$25. Register [online](#) or call Deanna Baldwin at (410) 841-5769.
- 26 Jan.** [Urban Ag Winter Meeting](#). Baltimore, MD. For details, contact Neith Little (410) 856-1850 or [nglittl@umd.edu](mailto:nglittl@umd.edu).
- 11 Feb.** Harford County Mid-Winter Agronomy Meeting. 9-3 p.m. Deer Creek Overlook, Street. Registration information forthcoming.
- 13 Feb.** [Women In Ag Conference](#). Dover Downs, Dover, DE. Register [online](#) or call Shannon Dill (410) 822-1244.
- 19 Feb-Mar 25.** [Annie's Project](#). 6-9 p.m. Baltimore County Extension Office, Cockeysville. \$75. Register [online](#) or call Erika Crowl (410) 887-8090.

December 2019