

# WEEKLY CROP UPDATE



UNIVERSITY OF DELAWARE  
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## Vegetable Crops

### **Use of Compost for Crop Production -**

*Gordon Johnson, Extension Vegetable & Fruit Specialist; [gcjohn@udel.edu](mailto:gcjohn@udel.edu)*

There are several compost companies in Delaware that are currently seeking to expand compost use. We have seen significant benefits for horticulture uses of compost with fruits, vegetables, nurseries, turf, and landscapes with improved soil health. For agronomic crops, similar benefits may be found but costs are often prohibitive.

Growers also can learn how to make good compost and many of our small producers make compost at some level.

The following is a reprint of some information on how to evaluate and use compost for crop production.

In the composting process, organic stock material sources such as yard wastes, manure and litter, wood waste, food scraps and garbage, paper, hatchery waste, or other waste materials are combined in a proper mix to create a carbon to nitrogen ratio that will promote the growth of microorganisms that then decompose the materials, producing a dark, humus-rich end-product. In addition, in the composting process, the compost piles will heat up to between 130-170° F, killing pathogens of concern in the materials. A properly produced compost can be used for vegetable and fruit production without concerns for transferring plant pathogens or human pathogens.

Compost will contain plant nutrients, the level of which depends largely upon the stock materials used. Nitrogen content may be significant; however, much of the nitrogen will be in organic form and will be slowly available over several years. Most of the potassium will be readily available while phosphorus availability is more variable.

While compost does contain plant nutrients, the more important benefit that it provides is stable organic matter. Because it has already been decomposed, the organic component contains humus-like materials that will decompose very slowly when added to the soil. This means that compost will immediately raise the organic matter of the soil. This in turn will increase the cation exchange capacity (CEC) of the soil, improve soil moisture holding capacity, and improve soil physical characteristics (reduced compaction, improved aeration, decreased crusting). Compost can significantly improve soil health.

Research has also shown that certain composts can reduce the incidence of soil borne diseases and pests. This is most likely because the organic addition promotes more diversity in soil microorganisms that can compete with pathogens and the improved physical properties of the soil (such as reduced compaction) that limits the impact of certain pathogens. Newly finished compost also contains beneficial microorganisms that directly affect plant pathogens by antibiosis or hyperparasitism. Some composts have also been shown to induce resistance to pathogens in crop plants.

When using compost, growers should first receive an analysis of the material. From this analysis you should look at the following:

**Compost Maturity and Stability** - Only use mature compost that has finished the composting process and that is stable. Immature compost will continue to decompose and can cause soil imbalances in some cases.

**Nutrient Content** - As previously stated, compost has a base nutrient content. You need to account for available nutrients in the nutrient management plan for the crop the compost will be used on. Much of the nitrogen will be in organic form and only a portion will be available for the growing season.

**Electrical Conductivity (EC or salts levels)** - Composts that use manure or poultry litter as part of the stock materials can accumulate salts (particularly potassium) at elevated levels. The elevated salt content must be accounted for when determining application rates so that salt injury does not occur with crops.

**Calcium Carbonate Equivalent (lime value)** - Lime is generally not added in the composting process; however, high pH materials such as hatchery waste sometimes are composted. This means that certain composts may have more liming value.

**Moisture Content and Physical Condition** - Compost will be partly water. With higher moisture composts, you will be paying for more water and less of the humus material and nutrients. In addition, higher moisture composts do not spread as well. Compost should be adequately screened so that the product spreads well.

In research at the University of Delaware with several compost materials, a rate of 5-7 tons per acre showed yield benefits on sandy soils in the first year with several vegetable crops. However, specific effects on a grower's farm will depend on soil type, existing organic matter, existing soil health, and compost source; therefore, rates should be adjusted accordingly.

The decision to use compost is also an economic one. Compost can cost anywhere from \$20.00 to

\$50.00 per ton depending upon the source and distance for transport. Growers need to consider the soil improving and nutrient value of the compost and evaluate that against other soil improvement programs such as cover cropping and green manure crops.

For small growers, permanent composted beds can create extremely productive and resilient growing systems. Three to four-foot-wide beds 100 or more feet in length are laid out with paths between the beds. The bed surface is covered with compost and paths are covered with bark or wood chips. Crops are planted through the compost. Each year additional compost is added to the bed. Cover crops are planted on the beds between seasons and are laid down or rolled by hand and then planted through providing additional mulch that decomposes. Crop debris also remains to decompose. A rich organic layer develops that no longer requires any tillage.

## Agronomic Crops

**Monthly Grain Market Outlook** - *Nate Bruce, Farm Business Management Specialist, [nsbruce@udel.edu](mailto:nsbruce@udel.edu)*

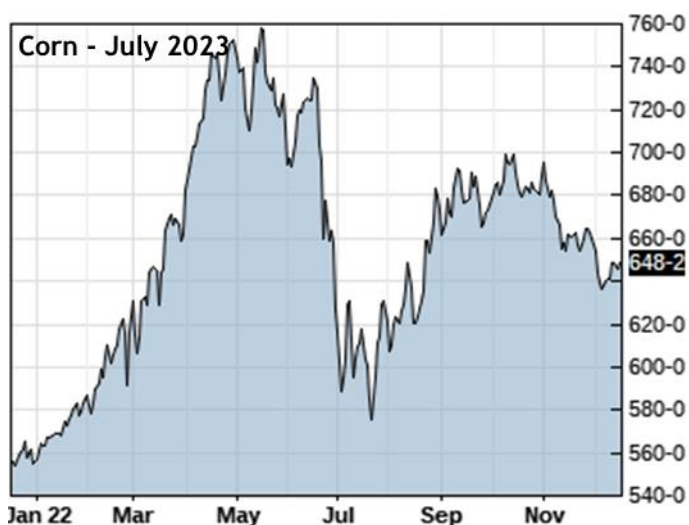
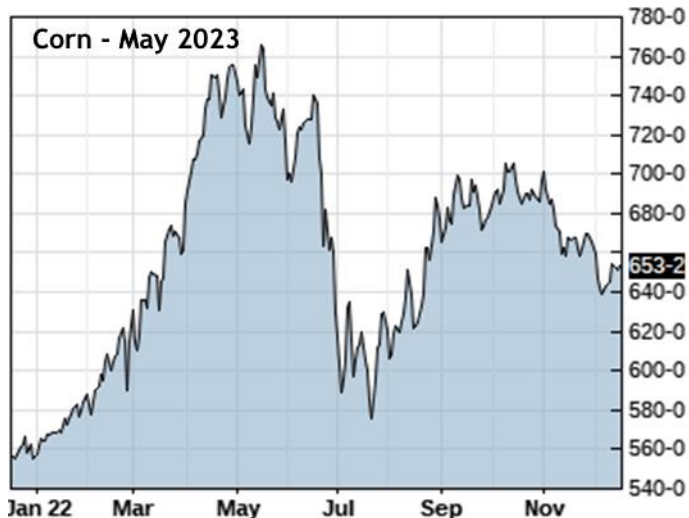
*Written 12-16-2022*

Recent trends in corn prices have been down. Since the beginning of December, corn prices have retreated from the \$6.70 range. The market has been impacted by Black Sea shipping routes being open again and weakening export demand. Soybeans have been trading sideways since June and it appears this won't stop anytime soon. Expect price swings in the \$14.00-\$15.00 range to continue with support at the \$14.00 level. Wheat prices have been in retreat since October with prices now falling below pre-Ukrainian invasion levels. Some of the initial reported crop conditions have not been favorable for wheat and this has not helped support the market. It is quite possible for wheat to make a rebound, however the current trend in prices has been down.

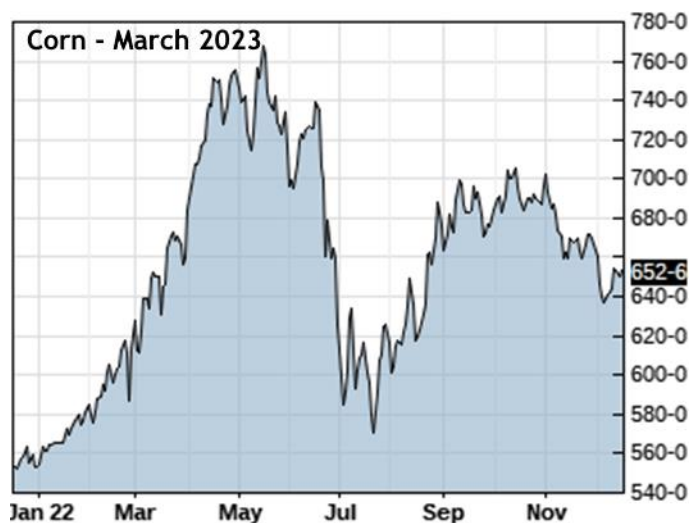
The December USDA World Agriculture Supply and Demand Estimates Report (WASDE) estimated corn ending stocks at 1.257 million

bushels up 6% from the November estimate of 1.182 billion bushels. The only difference from the November report was lower corn exports. Soybean ending stocks remained the same as the November report at 220 million bushels. Wheat ending stocks were also projected to be the same as the November report at 571 million bushels.

In international grain market news, Brazilian producers are anticipating one of the largest soybean crops in the nation's history. It is highly possible production from Brazil could be greater than what the country can export. Across the border in Argentina, a different story has been driving this year's crop with producers facing weather related issues and political stressors. The Ukrainian grain export deal that was resumed on November 19<sup>th</sup> for 120 days has come under scrutiny again by Russia claiming the deal has only benefitted wealthy nations and has not provided accommodations for Russian fertilizer exports. Russia desires for an alteration to the agreement. Despite this, Ukraine is expected to export 4.2 million tons of grain in the next four months, up from the original 1.8 million tons in a previous estimate, according to the Foreign Agricultural Service of USDA. Majority of grains expected to be exported are wheat and corn. There has been some impact in the markets of both crops due to these export estimates.

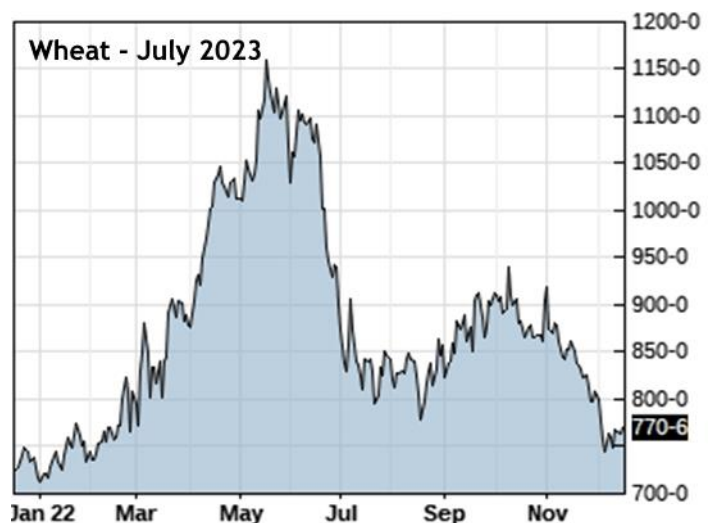
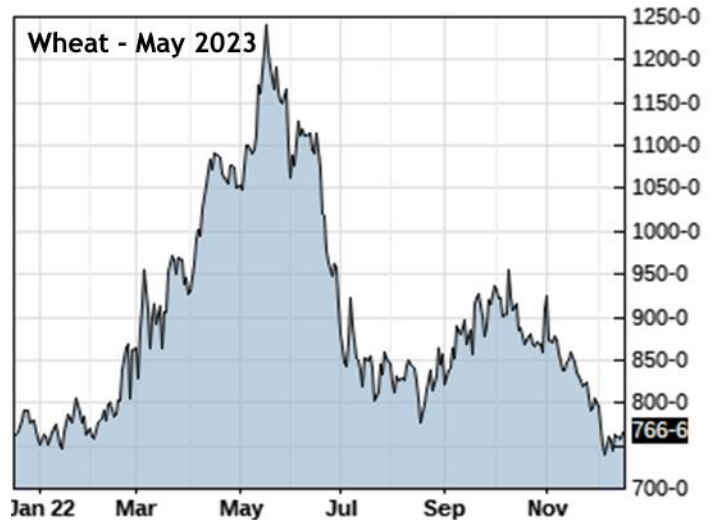
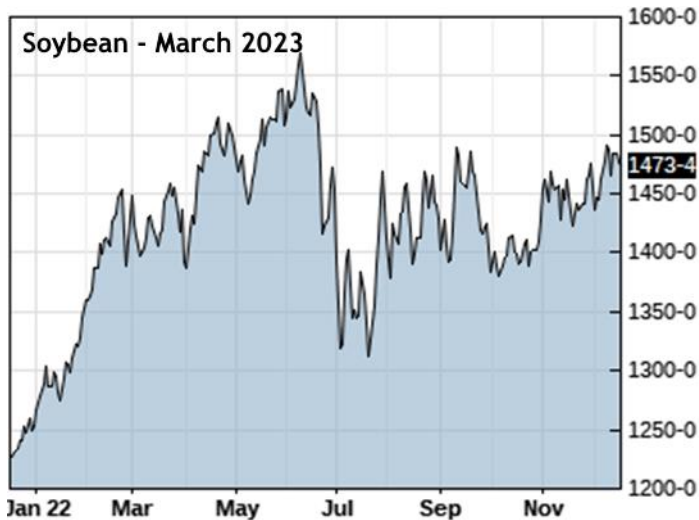


### Corn Futures

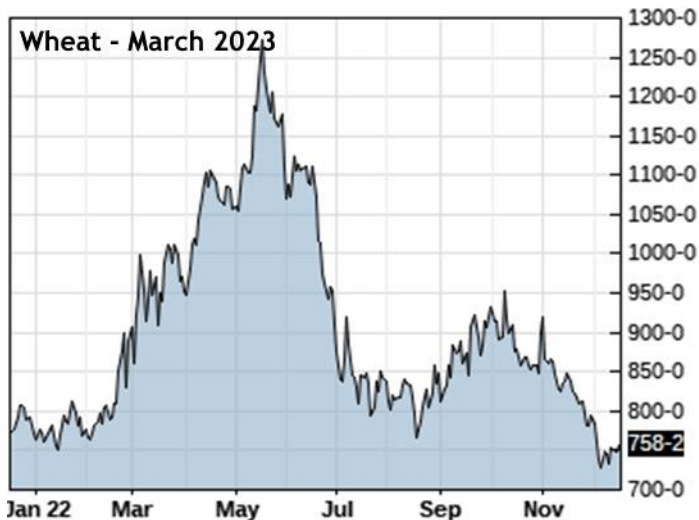


### Soybean Futures





**Wheat Futures**



**General**

**New Kent Count Ag Agent** - *Drew Harris, Kent Co. Ag Agent, [raharris@udel.edu](mailto:raharris@udel.edu)*

My name is Drew Harris and I am thrilled to be the Kent County Ag Agent for the University of Delaware. I first began my journey long ago as a member of the Delaware 4-H Youth Development Program in Kent County. My projects focused on livestock, particularly swine and sheep while I also worked on poultry. During High School I was heavily involved in FFA and continued the projects that I was involved with in 4-H. After High School I attended Delaware Valley University where I majored in Ag Business with a concentration in Crop Science. Throughout my time at Delaware Valley University, I did

research on silage corn varieties and beneficial microbes. The last two years I worked at Growmark FS, LLC in Milford where I provided recommendations for cash sale customers and assisted salespeople on pricing items. I also currently serve as the assistant superintendent of the Poultry Department at the Delaware State Fair. I am beyond excited to begin my work in extension and nurture relationships throughout the area. I look forward to meeting and working with everyone in the coming year.

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**Annual Insect Pest Management Surveys** -  
David Owens, *Extension Entomologist*,  
[owensd@udel.edu](mailto:owensd@udel.edu)

Each year I look for feedback from farmers, agribusiness personnel, and consultants to gain a better understanding of how arthropod and slugs affected soybeans and watermelons. If you have not already seen either survey, please take a few minutes to take a look at them or contact me with your thoughts and concerns. I would like to have all soybean surveys back by the end of the year so that they can be compiled before the new year. Thanks!

**Soybean pest survey:**



**Watermelon pest and practices survey:**



**Tax Planning for Producers Receiving Loan Servicing Assistance** - Laurie Wolinski, *Extension Agent*; [lgw@udel.edu](mailto:lgw@udel.edu)

Farmers might have received a loan servicing assistance payment if they were experiencing certain types of financial distress. These loan servicing assistance payments resulted from the Inflation Reduction Act. The fact sheet, developed by Rob Holcomb, will address the impacts of loan servicing assistance payments and address strategies to help mitigate the tax consequences of a loan servicing assistance payment.

You can view the webinar here: <https://agftap.org/home/resourcedetails?id=37ff29b3-397d-4dfd-a98b-ba829b62397b>

And the fact sheet here: <https://agftap.org/home/resourcedetails?id=b4f40c55-d414-48f6-8985-2ab4d912bc4c>

## Announcements

### Delaware Agriculture Week

Monday, January 9 – Thursday, January 12, 2023

Delaware Agriculture Week will be back at the Delaware State Fairgrounds in Harrington from January 9-12, 2023! Delaware “Ag Week” is an ongoing collaboration between University of Delaware Cooperative Extension, Delaware State University Cooperative Extension and the Delaware Department of Agriculture.

Delaware Ag Week provides useful and timely information to the agricultural community and industry through educational meetings and events. In addition, it is a great time for networking and fellowship with old and new acquaintances.

The associated trade show will take place in the Dover Building from Monday afternoon, January 9 to Thursday January 12.

Delaware and Maryland pesticide and nutrient management credits and CCA credits will be available.

We are busy planning sessions and agendas, but please keep an eye on the Ag Week website for information and updates. <https://sites.udel.edu/delawareagweek/>

## Tentative Ag Week Session Schedule

### **Monday, Jan. 9**

Poultry  
Beef  
Fruit  
Woodland

### **Tuesday, Jan. 10**

General Vegetables  
Fresh Market Vegetables  
Hay and Pasture  
Small Ruminant  
Farmers Market Managers  
Specialty Crop Block Grant

### **Wednesday, Jan. 11**

Processing Vegetables  
Pollinators  
Nutrient Management  
Risk Management  
Small Flock Poultry  
Small Farm Irrigation

### **Thursday, Jan. 12**

Agronomy/Soybean  
Urban Farm and Food

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## **Vegetable and Fruit Sessions During Ag Week**

The Fruit and Vegetable Growers Association of Delaware's Annual Educational Meetings will be held January 9-11, 2023 as a part of Delaware Ag Week. A general schedule and session agendas are below.

### **GENERAL SCHEDULE OF FVGAD MEETINGS**

#### **Monday, January 9**

**Fruit Session** 1:00 - 3:55 p.m.  
Exhibit Hall Board Room  
NM Credits: 0.5

#### **Tuesday, January 10**

**General Session** 9:00 - 11:50 a.m.  
Exhibit Hall  
NM Credits: 0.5

**Fresh Market Session** 1:00 - 4:30 p.m.  
Exhibit Hall  
NM Credits: 0.5

### **Wednesday, January 11**

**Processing Vegetable Session** 9:00 - 11:45 a.m.  
Exhibit Hall  
NM Credits: 1.0

**FVGAD Awards Luncheon** noon - 2:00 p.m.  
Harrington Raceway & Casino, Gold Room  
[RSVP by January 3 required](#)

**Small Farm Irrigation Session** 6:00-9:00 p.m.  
Delaware Building  
NM Credits: 3.0

## **DETAILED FVGAD SESSION AGENDAS**

### **FVGAD Fruit Session**

Monday, January 9, 2023

Exhibit Hall Board Room

1:00-1:30 p.m.

#### **Fruit Diseases to Look Out For**

*Jill Pollok, Plant Diagnostician, University of Delaware*

1:30-2:00 p.m.

#### **Freeze and Other Weather Impacts on Fruit Production**

*Don Seifrit, Extension Educator, Tree Fruit, Penn State University*

2:00-2:30 p.m.

#### **Fruit Enterprise Budgets**

*Nate Bruce, Farm Business Management Specialist, University of Delaware*

2:30-3:10 p.m.

#### **Experiences with Three Alternative Fruit Crops: Physalis, Haskap and Aronia**

*Dr. Andrew Ristvey, Principal Agent & Extension Specialist for Commercial Horticulture, University of Maryland*

3:10-3:40 p.m.

#### **Updates on Berry Fruit Research; Finding Ways to Mitigate Heat and Disease Stress**

*Dr. Kalpalatha Melmaiee, Associate Professor, Plant Breeding and Molecular Genetics, Delaware State University*

3:40-3:55 p.m.

#### **Indoor Fruit Production Experiences**

*Dr. Gordon Johnson, Extension Fruit and Vegetable Specialist, University of Delaware*  
*Bill Owens, Owens Premium Produce*

**FVGAD General Session**  
Tuesday, January 10, 2023  
Exhibit Hall

9:00-9:05 a.m.

**Welcome**

*Shane Marvel, President FVGAD*

9:05-9:20 a.m.

**Updates from the Delaware Department of Agriculture on Produce Safety.**

*Amanda Ziegler, Food Safety Program Coordinator, DDA*

9:20-9:45 a.m.

**Current Issues in Produce Food Safety**

*Dr. Kali Kniel, Professor of Microbial Food Safety, University of Delaware*

9:45-10:00 a.m.

**Experiences in Retrofitting Watermelon Harvest Buses to Improve Food Safety**

*Dr. Gordon Johnson, Extension Fruit and Vegetable Specialist, University of Delaware*  
*Jennifer Jones, Extension Program Assistant, Produce Food Safety, University of Delaware*

10:00-10:30 a.m.

**Using H2A Workers on Fruit and Vegetable Farms**

*H2A consultant, másLabor Group*

10:30-11:00 a.m.

**What is Climate Smart Agriculture and How Does it Impact Fruit and Vegetable Growers?**

*Dr. Emmalea Ernest, Scientist, Fruit and Vegetable Program, University of Delaware*

11:00-11:25 a.m.

**Success with Biofumigation for Control of Soil Borne Diseases**

*Dr. Gordon Johnson, Extension Fruit and Vegetable Specialist, University of Delaware*

11:25-11:50 a.m.

**New Crop Focus – Growing Baby Ginger**

*Shem Elias, Graduate Student, University of Delaware*

**FVGAD Fresh Market Vegetable Session**

Tuesday, January 10, 2023  
Exhibit Hall

1:00-1:30 p.m.

**A Decade of Applied Research in Fresh Market Vegetables; New Project on Agrivoltaics**

*Dr. Gordon Johnson, Extension Fruit and Vegetable Specialist, University of Delaware*

1:30-2:30 p.m.

**Updates on Diseases of Fresh Market Vegetables and their Control**

*Dr. Andrew Wyenandt, Extension Specialist in Vegetable Pathology, Rutgers University*

2:30-3:00 p.m.

**Keeping it Fresh - Insect Management Updates in Fresh Market Vegetables**

*Dr. David Owens, Extension Specialist – Entomology, University of Delaware*

3:00-3:20 p.m.

**Alternative Weed Control Strategies for Fresh Market Vegetables**

*Dr. Mark VanGessel, Professor and Extension Specialist - Weed Science, University of Delaware*

3:20- 3:40 p.m.

**Fresh Market Vegetable Budgets**

*Nate Bruce, Farm Business Management Specialist, University of Delaware*

3:40-4:00 p.m.

**Research Updates on Pepper Shading and Pole Lima Beans**

*Dr. Emmalea Ernest, Scientist, Extension Fruit and Vegetable Program, University of Delaware*

4:00-4:30 p.m.

**Disease Management in High Tunnels**

*Dr. Rose Ogutu, Horticulture Specialist, Delaware State University*

**FVGAD Processing Vegetable Session**

Wednesday, January 11, 2023  
Exhibit Hall

9:00-9:05 a.m.

**Welcome**

*Shane Marvel, President FVGAD*

9:05-9:30 a.m.

**A Decade of Applied Processing Vegetable Research; New Processing Vegetables Part 1**

*Dr. Gordon Johnson, Extension Fruit and Vegetable Specialist, University of Delaware*

9:30-9:55 a.m.

**Slimy Early and Late Season Pest Management**

Dr. David Owens, Extension Entomologist, University of Delaware

9:55-10:15 a.m.

**Weed Control for Processing Crops is Not Getting Easier with Palmer Amaranth and Herbicide Resistance**

Dr. Mark VanGessel, Extension Weed Science Specialist, University of Delaware

10:15-10:45 a.m.

**BREAK**

10:45-11:05 a.m.

**Root Knot Nematode Management Strategies in Processing Vegetables**

Eboni Traverso, M.S. Student, University of Delaware

11:05-11:25 a.m.

**Farm Financial Management Strategies for Rising Input Costs**

Nate Bruce, Farm Business Management Specialist, University of Delaware

11:25-11:45 a.m.

**Pea and Lima Trials; New Processing Vegetables Part 2**

Dr. Emmalea Ernest, Scientist, Extension Fruit and Vegetable Program, University of Delaware

**FVGAD Awards Luncheon and Business Meeting**

Wednesday, January 11, 2023 noon - 2:00 p.m.  
Harrington Raceway & Casino, Gold Room

All current FVGAD members are invited to attend free of charge, but must pay dues and RSVP by January 3, 2023 to guarantee a ticket

Tickets are \$35 for non-FVGAD Members.

To pay FVGAD Dues, RSVP for Luncheon or Purchase Tickets [use this form](#).

**Small Farm Irrigation Session**

Wednesday, January 11, 2023  
Delaware Building

James Adkins – Irrigation Engineer, University of Delaware

A comprehensive irrigation design, selection and management course for small commercial vegetable & fruit farms from ¼ – 5 acres. Topics discussed will include water source and flowrate requirements, daily water use by crop, soil considerations, selection of the

ideal irrigation type for your farm, system design, management and costs. Participants should be prepared with their crop types and field shape to design a system for their farm.

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**Beekeeping 101**

Saturday, 21 Jan, 21 2023 8:00 a.m-3:00 p.m.  
Wyoming United Methodist Church  
216 Wyoming Mill Rd, Dover, DE 19904

Beekeeping 101 – \$50.00

A one-day course for anyone interested in the art & science of beekeeping! An Active 2023 Membership is required for this course.

Beekeeping 101 is the place to “bee” for anyone who has never kept bees before. A 2023 Membership is required to take the course.

Registration required; cost is – \$50.00

Register online:

<https://delawarebeekeepers.com/event-5068499?CalendarViewType=1&SelectedDate=1/15/2023>

**Course Agenda**

8:00 Registration & Networking

8:30 “Introductory Remarks” – Welcome to the DBA

8:40 “Essential Beekeeping Equipment”

9:40 Break

9:55 “First Year Beekeeping & Apiary Placement”

10:45 “Honey Bee Biology”

11:45 Lunch

12:30 “Bees: Where do I get them?”

1:30 “General Colony Inspection”

2:30 - Closing Comments

*Beekeeping 101 includes a reference book, "The Beekeepers Handbook" and lunch.*

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## Beekeeping 201

Saturday, 21 Jan, 21 2023 8:00 a.m-3:00 p.m.  
Wyoming United Methodist Church  
216 Wyoming Mill Rd, Dover, DE 19904

A one-day course for anyone who has or had bees for at least one season. Membership is required for this course.

*Registration required; cost is – \$50.00*

Register online:

<https://delawarebeekeepers.com/event-5068506?CalendarViewType=1&SelectedDate=1/15/2023>

### **Course Agenda**

8:30 - “Advanced Bee Biology”

9:30 - “Splitting Over-Wintered Hives & Swarm Prevention”

10:30 Break

10:45 - “Queen Rearing”

11:55 Lunch

12:45 - “Signs and Symptoms of Disease and Pest Infestations.”

1:45 - “Mite Treatments”

2:45 - Closing comments

*Beekeeping 201 includes lunch.*

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## **Delaware Produce Safety Training**

Wednesday, January 25, 2023 8:00-4:30  
UD Carvel Research & Education Center  
16483 County Seat Hwy, Georgetown, DE

### ***What to Expect at the PSA Grower Training Course***

The PSA Grower Training curriculum includes seven modules. For in-person courses, trainers will spend approximately seven hours of instruction time covering the curriculum content below.

- Introduction to Produce Safety
- Worker Health, Hygiene, and Training
- Soil Amendments

- Wildlife, Domesticated Animals, and Land Use
- Agricultural Water (Part I: Production Water; Part II: Postharvest Water)
- Postharvest Handling and Sanitation

In addition to learning about produce safety best practices, parts of the FSMA Produce Safety Rule requirements are outlined within each module. There will be time for questions and discussion, so participants should come prepared to share their experiences and produce safety questions.

Register for the training via Eventbrite:

<https://www.eventbrite.com/e/january-25-2023-produce-safety-alliance-psa-grower-training-tickets-453291786937>

*Call 302-856-7303 if you have questions about this training.*

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## **2023 Annie's Project Course**

Wednesdays, Feb 22 to Mar 29, 2023  
6:00-9:00 p.m.

University of Maryland Extension-Queen Anne's County, 505 Railroad Avenue, Suite 4, Centreville, MD 21617

or Online via Zoom

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

This course is a discussion-based workshop bringing women together to learn from experts in production, financial management, human resources, marketing, and the legal field.

There is plenty of time for questions, sharing, reacting, and connecting with your presenters and fellow

participants. It's a relaxed, fun, and dynamic way to learn, grow and meet other women in agriculture.

Cost: \$50 Annie's Project Course; \$150 Annie's Project Course and FSA Borrower Training Fee

Registration and additional info at:

<https://extension.umd.edu/programs/agriculture-food-systems/program-areas/farm-and-agribusiness-management/annies-project/class-information>

For more information call Shannon Dill at 410-822-1244 ([sdill@umd.edu](mailto:sdill@umd.edu)) or Jenny Rhodes at 410-758-0166 ([jrhodes@umd.edu](mailto:jrhodes@umd.edu)).

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***Weekly Crop Update is compiled and edited by Emmalea Ernest, Scientist - Vegetable Crops***

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