2021

Volume 12, Issue 2

Lakeland Agricultural Research Association

The Verdant Element

Farming In Bloom

Inside this issue:

Pest Watch	4
Soil Health Academy	5
Environmental Farm Plan	6
Canadian Agriculture Partnerships	7,8
Soil Health at Home	9
Cyanobacteria	10
Kids Farm Safety	11

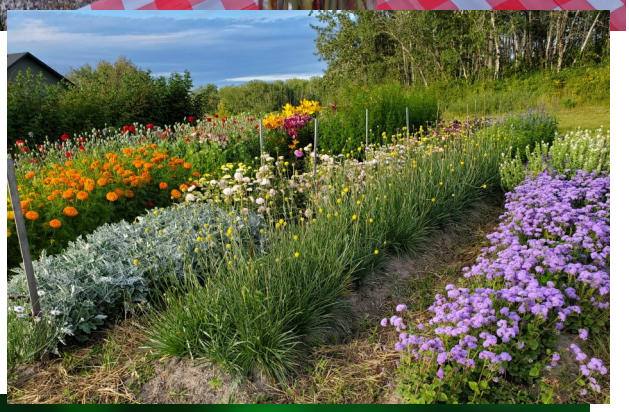
Flowers elicit emotion; happiness, sadness, love, friendship, forgiveness, peace and so much more. Bouquets are given for just as many reasons; in memory of someone, when someone is sick or hurt, for friendship, for hosting, for romance or just because. I cannot think of anyone who does not appreciate a beautiful bouquet.

North of highway 55, tucked away close to Wolf Lake, is Providence Acres Flower Farm, a true gem in the Lakeland. A flower farm might seem like a far fetched idea for the area, but it was one that was on Lena Thiessen's mind for a long time. She and her husband Ryan, started Providence Acres Flower Farm in 2018 and have not looked back. The farm is located on land that her Dido (grandfather) homesteaded after World War I, after coming to Canada from Slovakia. Growing up, Lena's family farmed cattle, but her post-secondary focused on horticulture. For Lena and Ryan, the flower farm fits their lifestyle and the life that they want to create for their five children. The farm has provided a way to work as a family, and although it may be different from a traditional farm, they get to work together, succeed together, and find joy in growing something beautiful that they get to share with others. The farm has been a labour of love; and a way to instill values in their kids, doing something worthwhile and teach skills that will carry them into the future.

Creating a flower farm so far north has had a steep learning curve. Most of the information and education regarding flower farming comes from the United States, and needs to be taken with a grain of salt (especially what grows best and harvest times) to figure out what works best in the local climate. Some of the best knowledge and advice has come from neighbors with many years of gardening experience. Cont. next page

YouTube and Instagram have also been great to learn from and gather inspiration. When you are passionate about what you are doing, you tend to notice aspects such as a different flower, or combination that you may want to include or never thought about before, from anywhere you can see bouquets, even from watching a television show or driving around the area.

Since inception, there has been many humbling learning experiences. One of the biggest lessons has been to not count flowers before they bloom. Each season has so much variability with respect to germination, growing conditions, ability to source seed. All of which will have a huge impact on what you can provide, with so much of it being out of your control. Lena has learned to balance beauty with efficiency; you can't coddle plants as it takes too much of your time for little return. She has learned to be creative, not being stuck on one idea; having to pivot to be resilient and flexible in case something happens such as a crop failure. Different varieties are constantly being trialed, and extensive journaling is being done to figure out the best time to seed, when to transplant, how long it takes to mature and how it holds up as a cut flower. It is a constant evolution to figure out the best timing to match seasonal color pallets. While I was seated at Lena's table for this interview, I was surrounded by little jars of different flowers. Some were leftovers from previous bouquets that didn't find a home with someone else, others were flowers that they were trying out to see how they held up as a cut flower for a future bouquet option. In any case, it was a beautiful sight to look at all the happy blooms around the kitchen.



As Providence Acres Flower Farm evolves, some of the growth potential of the operation is through diversification. Last year they added a u-pick and create a bouquet experience, where small groups could come out and pick and create their own bouquets. I did this last fall, and I can attest that I had a marvelous time and was really proud of my first flower arrangement, which was created under the expert tutelage of Lena (which can be seen in the top right photo). It was also impressive with how long the blooms lasted, their quality was clearly evident. This year, Lena and Ryan expanded the business by adding another greenhouse tunnel to house warm season and sensitive species such as eucalyptus. They are also hoping to add a farm store where the kids can sell fresh veggies that they grow. In the future, Lena hopes to hold gardening courses, host events and take advantage of the possibilities with increased agro-tourism. There is no shortage of ideas and possibilities, but like any fledgling business, is

Continued on page 3

hampered by a shortage of infrastructure and space. But each year new projects are accomplished, such as the new tunnel addition, which help grow the business. A new website (https://www.providenceacresflowerfarm.ca) was added this year and streamlined orders and provides the opportunity for showcasing gorgeous flowers.

Year-round there is always something to do. Seeding starts as early as January for certain species, with transplanting in May. Even after the last bloom is harvested, fall brings the collection of tubers for storage, and even December is busy with Christmas wreath sales. But the work brings happiness, and family time spent together. The foundation of this farm is love; which is apparent with how this family works together. But there is also a love of agriculture, flowers, and sharing that love and flowers with their patrons. It means a great deal to this family for people to be buying their flowers. They know that people could buy cheaper flowers at their local grocery store; but are so appreciative of the support that this community has shown with their subscription bouquet purchases and the u-pick. Lena and Ryan are thankful that they are able to farm flowers, and be surrounded by family and work towards a beautiful blooming future with their kids along side of them.

Photos page 2 from top: straw flower; my u-pick bouquet; flower farm bed; ranunculus in raised bed. Photos from this page from top: my u-pick bouquet; perennial flower bed; eucalyptus; solar powered watering system and new greenhouse tunnel; seasonal flower; and lupines.

ALBERTA invasive species COUNCIL
abinvasives.ca
info@abinvasives.ca

Last Updated January 2014

Field Scabious

Knautia arvensis Bachelor's buttons, Gipsy rose

Provincial Designation: Noxious

Alberta Sustainable Resource Development

Overview:

Field scabious is native to Europe and was introduced as an ornamental plant. It is a tall perennial that favors grassy areas and develops a deep tap root. The flowers very closely resemble those of another ornamental perennial, Scabiosa (butterfly plant, pincushion flower) but each plant belongs to a different genus.

Habitat:

Prefers nutrient-rich and moderately dry soils, but can also establish in gravelly soils.

Identification:

Stems: Are erect, hairy, sparsely branched, and grow up to 1.5 m tall. There can be one or several stems per plant, with little or no branching in the upper stem.

Leaves: Are hairy and the degree of the lobes is highly variable. Young rosettes leaves tend to be lance-shaped, have pointed tips, and the margins can be entire or coarsely toothed – sometimes a few leaves will be pinnately lobed. Stem leaves are opposite, pinnate (deeply lobed) and attached directly to the stem. Lower leaves are 10-25 cm long but become smaller higher on the plant.

Flowers: Are a composite of small, violet-blue to purple florets clustered into a head resembling a single flower up to 4 cm wide, and occur singly at the ends of stems. Occasionally flowering stems arise from leaf axils lower on the stem. Below the flower head is a ring of narrow green bracts. Flowers are hermaphroditic (having both male and female organs).

Seeds: Once flowering is complete the seed head is domed and covered with short, bristly hairs. The fruit is nut like, cylindrical and hairy, 5-6mm in size. Seeds fall around the parent plant. A single plant can produce up to 2000 seeds that remain viable for many years.

Prevention:

Field scabious can invade undisturbed plant communities, and once established is very difficult to control, but maintaining healthy cover can help to prevent against invasion. Any field scabious infestation that has been allowed to go to seed a few times will require many years of diligent control work to eradicate. Since this plant favors grassy areas such as hayfields, it can be widely dispersed in baled forage.

Control:

Grazing: Field scabious is not palatable and seeds can be transported by animal movement. Invasive plants should never be considered as forage.

Cultivation: Discing before flowering is effective in crop land situations.

Mechanical: Mowing is effective to prevent seed production but would likely need to be repeated in the season because of re-sprouting. The deep tap root is difficult to remove in anything but loose soils; therefore hand pulling usually results in the stem breaking off at ground level and then re-sprouting occurs. However, any removal of seed is beneficial. Wear long sleeves and gloves as skin contact with the hairy plant causes considerable itching.

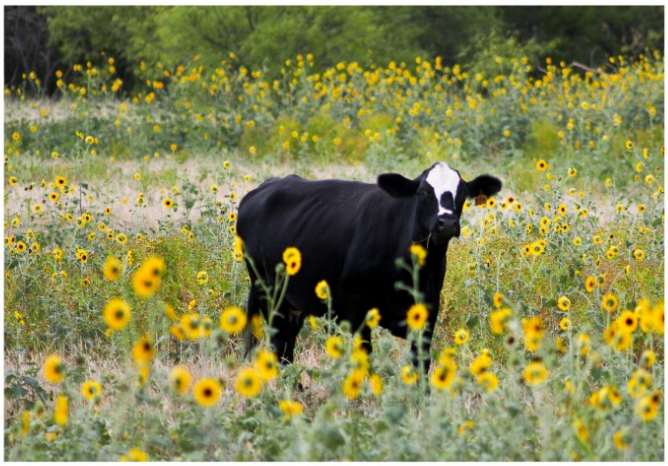
Alberta Sustainable Resource Development

Chemical: Metsulfuron-methyl alone or in a product mix with Aminopyralid are registered for use on field scabious. Always check product labels to ensure the herbicide is registered for use on the target plant in Canada by the Pest Management Regulatory Agency. Always read and follow label directions. Consult your local Agricultural Fieldman or Certified Pesticide Dispenser for more information.

Biological: None researched to date.

Alberta Sustainable Resource Development

Alberta Sustainable Resource Development



LAKELAND AGRICULTURAL RESEARCH ASSOCIATION

SOIL HEALTH ACADEMY

With Gabe Brown and Dr. Allen Williams

JUNE 22-24, 2022

MALLAIG AB

Through hands-on training from the world's leading experts, Soil Health Academy participants learn how to increase profitability, build resiliency into the land, decrease input costs and improve nutrient density of food and agricultural products. No matter where you farm or what you grow, the Soil Health Academy will teach you how to improve soil health through practical regenerative agricultural principles.

Environmental Farm Plans

The environment is becoming a more prominent issue. It is a large factor in marketing agriculture and food products in today's global markets. Consumers are demanding more transparency and are demanding high quality and safe products. Reputation of food safety is critical to retain and gain access to domestic and international markets.

Environmental Farm Plans (EFP) provide a tool for producers to self analyze their operation and identify environmental risks, current standards, areas for improvement and also highlight what they are doing well.

Having a completed EFP allows producers to access different funding opportunities, such as the Growing Forward Stewardship Program. It is also useful in product branding that demonstrates specific environmental standards.

The EFP Process

An EFP can be completed through workshops, online or one-on-one session(s). The EFP first identifies the soil and farm site characteristics. Following this, the producer completes only the relevant chapters that apply to their operation; such as wintering sites, fertilizer, pesticides, crop management etc.

Upon completion the EFP is submitted to a Technical Assistant for review. Once reviewed the EFP will be returned along with a letter of completion.

The EFP is a living document and should be reviewed and updated periodically.

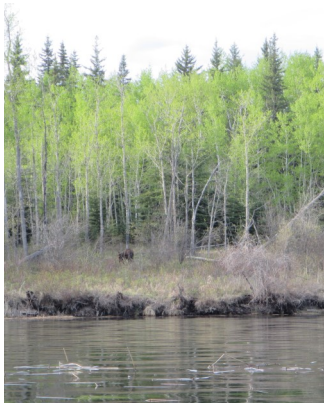
If you wish to complete an EFP or have any questions regarding EFP please contact Kellie at the LARA office at 780-826-7260

Riparian Health Assessment

The riparian zone is the interface between the upland and a water course. A healthy riparian area: traps and stores sediment; builds and maintains banks and shorelines; stores water; recharges aquifers; filters and buffers water; creates primary production and much more!

A riparian health assessment is a tool designed to evaluate the site and can provide a foundation to build an action plan and identify priorities.

If you would like a FREE Riparian Health Assessment conducted on your property or more information please call Kellie at 780-826-7260 or email sustainag.lara@mcsnet.ca



CANADIAN AGRICULTURAL PARTNERSHIP
Innovate. Grow. Prosper.

Alberta Canada

Farm Technology Program (FTP)
Program Funding List
June 2021|V1

The Canadian Agricultural Partnership (CAP) **Farm Technology Program** supports the adoption of innovative technology that minimizes agricultural waste, optimizes farm efficiency, and encourages the adoption of best management practices in farm security.

The 2021-2023 program-funding maximum is **$48,000** for Farm Technology and **$2,000** for Farm Security. The maximum amount is $50,000 over the program term. Grant funding cost share is 50% of eligible expenses.

PLEASE NOTE: Purchases made before the program receives the application are ineligible for reimbursement. All purchases must meet the requirements as stated in the Programs Terms and Conditions and applications will be assessed based on the program eligibility criteria section 3. All application information and supporting documents must be included to facilitate this assessment (i.e. quotations, spec sheets, or letters of support).

The funding list will be updated periodically over the course of the program. Please subscribe to the Farm Technology website to be notified of any Funding List changes (https://cap.alberta.ca/CAP/Programs).

FARM TECHNOLOGY FUNDING LIST	
Ineligible Expenses	• Equipment eligible under the Efficient Grain Handling Program & the Irrigation Efficiency Program • GPS Location Sensors
Category	**Eligible Expenses**

1	Electronic soil sensors
	• Electromagnetic
	  ○ Salinity, organic matter, moisture data
	• Electrochemical
	  ○ Nitrate, potassium, hydrogen ion (pH) data
	• Soil compaction sensors

2	Farm equipment-mounted sensors and cables
	• Optical sensors
	  ○ Vegetative index data
	  ○ Grain protein, oil, starch content data
	• Yield sensors
	  ○ Including hay bale

3	Farm equipment-mounted data collection and data storage units for: • Accelerometers • Gyroscopes • Magnetometers • Altimeters
4	Electronic livestock ID readers
5	Other sensors • Leaf wetness sensors • Bee hive temperature, humidity, audio and movement sensors
6	Technologically Innovative and Technology that is beyond a research stage and is commercially available and successfully demonstrated to work in Alberta. NOTE: Any items listed as ineligible are not eligible in this category.
7	Internet Boosters – **MAXIMUM $2,000 GRANT**

FARM SECURITY FUNDING LIST	
Eligible Expenses	**Ineligible Expenses**
➢ GPS Equipment Tracker ➢ Remote Monitoring Cameras ➢ Remote Fuel Tank Monitors ➢ Wireless Base Stations (Gateways) ➢ Motion Detectors/Driveway Alert Systems ➢ Door Sensors	➢ Bluetooth Trackers ➢ Regular Fuel Tank Monitors ➢ Installation Costs ➢ Lighting Systems ➢ Alarms

Efficient Grain Handling Program Funding List

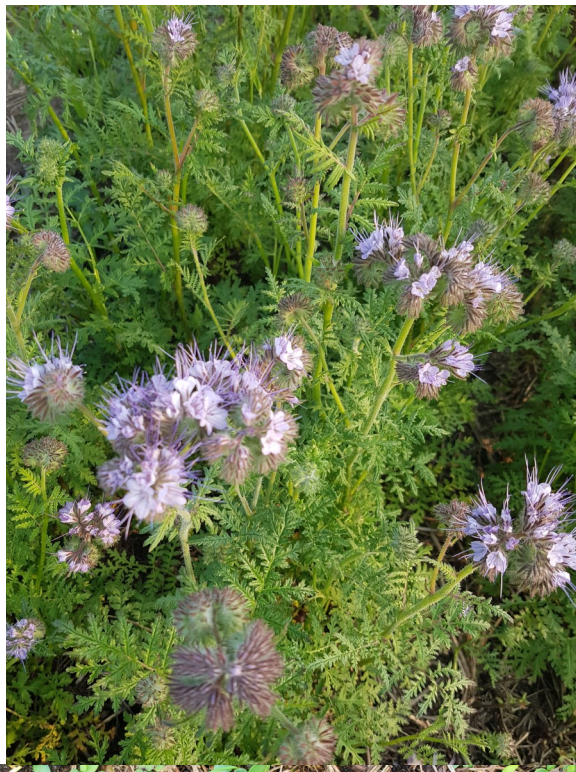
The Efficient Grain Handling Program is an energy efficiency program intended to assist producers with reducing the overall energy use on their operations. The program can only fund equipment that shows a significant energy efficiency improvement over standard practice. Aeration fans and ducts, grain elevators and conveyors, hopper bins, and standard grain dryer configurations, are all important tools in managing grain storage. Unfortunately, however, these are standard equipment and none of them are premium-efficiency options and therefore **DO NOT** meet the requirements of the program on their own. Installation and labour costs are also not eligible under this program.

Grain handling system components that significantly improve energy efficiency above standard configuration are eligible under the program. These components can be factory options on new equipment or retrofits installed on existing equipment.

Eligible Costs	Ineligible Costs
✓ Enclosed Dryer Roof, or Enclosed Dryer Top Cover	✕ Aeration Fans and Ducts
✓ Automatic Moisture-based Controllers	✕ Grain Elevators and Conveyors
✓ High-Efficiency Burners	✕ Grain Legs or Grain Pumps
✓ Variable Speed Drives (VSD) for Electric Motors	✕ Hopper Bins
✓ Grain dryer PTO to Electric Motor Conversion	✕ Conversion from Propane to Natural Gas
✓ Insulated Plenums	✕ Standard Grain Dryer Configurations
✓ Exhaust Air Recirculation Systems	✕ Additional Tiers
✓ Heat Exchangers	✕ Readers, software, or data subscriptions for interfacing with moisture and temperature cables
✓ Gravity-Fill Roofs	✕ Equipment that is leased
✓ Electrical or gas submeters on Dryers	✕ Motors that are not for converting PTO to Electric
✓ Temperature and moisture monitoring cables for in-bin drying systems	✕ Installation and labour costs are not eligible under this program.
✓ Thermostats or thermometers for plenum or burner temperature control on in-bin drying systems	
✓ Adapter plates for efficiently fitting external heaters to in-bin drying systems	If you are interested in applying for an item that is not listed as eligible, and is not listed or indicated to be ineligible, please call 310-FARM or email CAP.EGDP@gov.ab.cato see if this item could be considered in an application.
✓ Indirect-fired high-efficiency portable aeration dryers	
✓ Automated bin fan control systems	
✓ Pipeline to grain dryer – for costs incurred over and above those paid for by the Rural Gas Program to a maximum of $20k/applicant. ***A quote must be provided by the natural gas provider.***	
Program Funding is 50% of Eligible Expenses	

Soil Health Starts At Home

Soil health is something that I can talk oodles about. Cover crops, arbuscular mycorrhizal fungi, soil aggregation…. All of which I have written articles about, and can have long coffee conversations regarding soil. However, I realized the other day that perhaps I don't talk enough about it at home. My spouse was watching some Youtube videos regarding bee keeping that somehow went down the rabbit hole to a video on soil health. He asked me if I knew anything about what the presenter was discussing. This somehow led to a conversation with my spouse about soil health, and ultimately cover crops. Last year I planted a pollinator mix cover crop to feed my bees, as well to amend the soil at home. My spouse thought that it was only to act as bee fodder, as it was loaded with pollinator favorites such as phacelia and sunflowers. Little did he know that it also served a purpose to improve soil health. It was a challenging growing season, and what I ended up with was a nice crop of Canada thistle with a struggling pollinator mix fighting for resources. However what did survive and thrive, fed my bees as well as did improve the soil conditions. This was very evident this spring when we were planting trees around the yard. This spring was as dry as could be and our soil was like dust in some areas of the yard we were planting in. It was a stark contrast to the area that I had my pollinator-Canada thistle mix, as the aggregation of the soil was improved, it was a beautiful dark (loaded with carbon) soil, and the soil was moist, even under such dry conditions. The trees that we planted there "popped" up and leafed out so much quicker and look so much healthier that the others we planted around the yard. This year I replanted my pollinator cover crop mix, and having done an aggressive mowing prior to seeding, I will be interested to see what grows well this summer. I did not spray, much to the disappointment of my spouse, but looking at the book "When Weeds Talk" by Jay L. McCaman, I am curious if the Canada thistle will be suppressed by the cover crop as soil conditions change. The book indicates that Canada thistle favors soils that are low in calcium, manganese, phosphorous and humus; high in potassium and iron and like bacterial dominated soils. Hopefully my cover crop will change the availability of some nutrients, as well as increase the fungal to bacterial ratio of the soil. If not, my future option may include ordering in some Canada thistle stem mining weevils to help control the situation.



Photos (from left to right): Italian honeybees; cover crop emerging; phacelia in full bloom.

Monitor your livestock for heat stress, ensure they have plenty of shade and good quality water.

With this heat wave, it is creating prime conditions for cyanobacteria (blue-green algae) blooms; where bacterial numbers multiply rapidly, doubling in one day or less. The formation of toxic blooms is unpredictable. Signs of neurotoxin poisoning usually appear within 20 minutes of ingestion. In animals, symptoms include weakness, staggering, difficulty in breathing, convulsions and, ultimately, death. Animals affected by liver toxins may exhibit weakness, pale-colored mucous membranes, mental derangement, bloody diarrhea and, ultimately, death. Typically, livestock are found dead before producers observe symptoms.

Livestock that do survive cyanobacterial poisoning may lose weight and, in some cases, develop photosensitivity. Livestock that develop photosensitivity are prone to sunburns affecting lighter areas of skin, including the muzzle, udder, vulva/anus and areas with white hide. Affected skin will dry out, turn black and peel, exposing fresh, new skin.

No known antidotes are available for poisoning resulting from cyanobacteria.

Prevention and Control

The following practices can reduce nutrient levels, lowering the risk of cyanobacteria blooms in the future and enhancing water quality:

- Apply and manage fertilizer and manure properly.
- Reduce the amount of soil lost through runoff from agricultural fields through crop selection and soil conservation practices, such as reduced tillage and cover crops.
- Incorporate surface-applied phosphorus sources below the soil surface in a manner that does not increase soil erosion.
- Implement a nutrient management plan or grazing management system that reduces the levels of nutrients entering the water source.
- Establish or maintain buffer strips of perennial species to reduce nutrients that contribute to bacteria and algae growth, specifically nitrogen and phosphorus, in the water.
- Hay or graze buffer strips in the fall to reduce the vegetation that might release nutrients into surface water in the spring when it decomposes.
- **Prevent livestock from loitering in surface water by installing alternate water sources / offsite systems and/or fencing to reduce access. Place salt and mineral far from the water source to encourage movement to other areas away from water.**
- Pump water from the center of the water body well below the surface, where the bacteria are unlikely to concentrate, to a water tank. However, cyanobacteria can regulate their buoyancy, so this may not always work, however the bacteria will accumulate greater along the shoreline.
- Contact the LARA office for best ways to treat your water source, and test for blue-green algae.

Kids Farm Safety

It is always exciting to see the young future farmers getting involved around the operation. We all know that kids helping out around the farm creates a great work ethic, sense of responsibility and a love for farming. However, the farm can be a very dangerous place so making sure that kids are safe is a priority. There are really great resources out there for kids with respect to farm safety. The Canadian Agricultural Safety Association (CASA/ACSA) has amazing resources, including a safety scouts kit. The kit is engaging and includes safety themed activities such as colouring sheets, and even an adjustable child sized safety vest. For more information or to sign up go to: https://www.casa-acsa.ca/en/resources/for-kids/

Another great resource that has games, videos and safety activity sheets is from Alberta Farm Safety. https://www.abfarmsafety.com/group/for-families/

As for adult farm safety, for those that have been on the farm their entire life, or for visitors, AgSafe Alberta has some great resources at: https://www.agsafeab.ca

Lakeland Agricultural Research Association

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Sustainable farming encompasses a wide range of practices and principles; combining environmental stewardship with profitability and ensuring that the family farm will be there for generations to come.

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WWW.LARAONLINE.CA

Have you checked out the LARA Youtube channel??

If you missed a webinar that we have hosted you can find it there. Current videos include: Cover Crop Design, the Soil Health Webinar Series featuring Gabe Brown, Ray Archuleta and Dr. Allen Williams.

Pollinator Highlight: Canadian Tiger Swallowtail

This large yellow winged with black stripes and body butterfly is the Canadian Tiger Swallowtail. The instar larvae have excellent camoflauge and resemble brown and white colored bird droppings. These incredibly important pollinators are seen throughout the boreal and aspen parkland regions with host plants that can include poplar, willow and aspen. In May and June these easily identified pollinators can often be found feeding around lilacs and garden flowers. The adult butterfly emerges in the spring, and lays eggs in the summer on host plants. The larvae may be found curled in leaves. These larvae feed over the summer and pupate and overwinter as chrysalises.