Hello Northeast Ohio Counties!

The above average heat and dry weather has been propelling our area crops towards harvest and if this weather keeps up, we will be there before you know it.

Now’s a great time to make sure all you harvest equipment is ready to roll and has the proper lights and signage for road travel.

Stay safe!
Drydown In Corn – What To Expect?

By Peter Thomison


Many corn growers may encounter slower than normal drydown this fall due to late crop development associated with June planting dates. Much of Ohio’s late-planted corn may not achieve black layer until mid-October or later when drying conditions are less favorable for drydown. Once corn achieves physiological maturity (when kernels have obtained maximum dry weight and black layer has formed), it will normally dry approximately 3/4 to 1% per day during favorable drying weather (sunny and breezy) during the early warmer part of the harvest season from mid-September through late September. By early to mid-October, dry-down rates will usually drop to ½ to 3/4% per day. By late October to early November, field dry-down rates will usually drop to 1/4 to 1/2% per day and by mid-November, probably zero to 1/4% per day. By late November, drying rates will be negligible.

Estimating dry-down rates can also be considered in terms of Growing Degree Days (GDDs). Generally, it takes about 30 GDDs to lower grain moisture each point from 30% down to 25%. Drying from 25 to 20 percent requires about 45 GDDs per point of moisture. In October, we typically accumulate about 5 to 10 GDDs per day. However, note that the above estimates are based on generalizations, and it is likely that some hybrids may vary from this pattern of drydown. Some seed companies indicate considerably lower GDDs for grain moisture loss, i.e. 15 to 20 GDDs to lower grain moisture each point from 30% down to 25% and 20 to 30 GDDs per point from 25% to 20%.

Past Ohio research evaluating corn drydown provides insight on effects of weather conditions on grain drying. During a warm, dry fall, grain moisture loss per day ranged from 0.76 to 0.92%. During a cool, wet fall, grain moisture loss per day
ranged from 0.32 to 0.35%. Grain moisture losses based on GDDs ranged from 24 to 29 GDDs per percentage point of moisture (i.e., a loss of one percentage point of grain moisture per 24 to 29 GDDs) under warm dry fall conditions, whereas under cool wet fall conditions, moisture loss ranged from 20 to 22 GDDs. The number of GDDs associated with grain moisture loss was lower under cool, wet conditions than under warm, dry conditions.

Weather related crop stress may affect drydown this year. Dr. Bob Nielsen at Purdue University notes, “When areas of fields die prematurely due to stresses like drought, spatial variability for grain moisture at harvest can be dramatic and often creates challenges with the management of the grain dryer operation. This is especially true early in the harvest season when grain moistures of healthier areas of the field are in the low 20's. The spatial variability for grain moisture decreases later in the harvest season as grain moistures throughout the field settle to an equilibrium level (15% or less).”

Agronomists generally recommend that harvesting corn for dry grain storage should begin at about 24 to 25% grain moisture. Allowing corn to field dry below 20% risks yield losses from stalk lodging, ear drop, ear rots, insect feeding damage and wildlife damage.


Eastern Equine Encephalitis Confirmed in Northeast Ohio Horses

*Editor’s Note – This is a repeat from an earlier newsletter edition, but due to newly confirmed cases we thought it was a good reminder.

Ohio Department of Agriculture State Veterinarian Dr. Tony Forshey has confirmed three cases of Eastern Equine Encephalitis (EEE) in horses in northeast Ohio. ODA is urging horse owners to contact their veterinarian to ensure the animal’s EEE vaccine and boosters are up to date.

“This is a serious disease and the most effective way to prevent your horses from getting EEE is to have the animals vaccinated by a licensed veterinarian,” said Dr.
Forshey. “It is spread through mosquitoes and can also affect people, so taking steps to manage the mosquito population, such as eliminating standing water, will also help prevent EEE and other vector-borne viruses, like West Nile virus.”

The virus responsible for EEE is transmitted to horses by mosquitoes and attacks the animal’s central nervous system. In horses, onset is abrupt and usually fatal. Symptoms include unsteadiness, erratic behavior, a marked loss of coordination and seizures. Horses are particularly susceptible but the virus can also cause serious illness in people as well as other animals such as poultry and deer.

Because EEE can also be transmitted to humans by the bite of infected mosquitoes, animals sick from EEE are a sign that people should also take steps to guard themselves against mosquitoes by applying repellent and wearing protective clothing. The disease is very rare in humans, and only a few cases are reported in the United States each year. There are no confirmed human cases associated with this outbreak in Ohio.

The Ohio Department of Agriculture is working with the Ohio Department of Health and local health officials to monitor the outbreak. Suspect horse cases should be reported to a veterinarian as soon as possible. Citizens who are concerned about an illness should contact their physician.

For more information on EEE, visit: http://www.cdc.gov/EasternEquineEncephalitis/gen/qa.html

**Turning Up The Heat For Weed Control**
By Susan Fisk  
Source: [https://www.certifiedcropadviser.org/science-news/turning-up-the-heat-for-weed-control](https://www.certifiedcropadviser.org/science-news/turning-up-the-heat-for-weed-control)

Weeds are thieves. They steal nutrients, sunlight and water from our food crops. In the case of sugarcane, yield refers to the amount of biomass and the sucrose concentration of the cane, which ultimately determines the amount of sugar produced. Two weedy culprits, namely itchgrass and divine nightshade, reduce cane biomass and sucrose yield.
These two weeds are a growing problem in Louisiana, where nearly half of the United States’ sugarcane is grown.\textsuperscript{1} Itchgrass competition can reduce the sugar yield in cane by 7-17%. And, the longer it competes with sugarcane, the more the sugar yield is reduced. Although divine nightshade is a relative newcomer to Louisiana, it can reduce sugar production by up to 43%. Therefore, researchers are looking at the effect of heat to control itchgrass and divine nightshade seed before it emerges in sugarcane fields.

Burning sugarcane fields is common after harvest to reduce crop residue on the fields. This helps promote the growth of the next year’s crop, as the residue has been found to reduce cane biomass. Research on\textsuperscript{ flame weeding} and other forms of heat to control weeds is of interest in the U.S., largely because of herbicide-resistant weeds. So, Douglas Spaunhorst and his research team looked to find the right temperature to control weed seed during the normal sugarcane residue burns.

“Integrated weed management strategies have become more common in U.S. agriculture,” says Spaunhorst, who is based at the USDA-ARS Sugarcane Research Unit in Houma, Louisiana. “Mechanical types of weeding, like cultivation, burning, and seed crushers, show a lot of promise.”

“Evaluation of non-chemical strategies for itchgrass and divine nightshade management is limited,” says Spaunhorst. Chemical-alternative weed control can help slow herbicide-resistance evolution. “In fields historically under sugarcane cultivation, no chemical-resistant divine nightshade or itchgrass has been reported,” says Spaunhorst. “However, a few examples have been found where resistant itchgrass became established in soybean fields.”
One of the tricks of weed control by burning is creating the right conditions. Burning can kill the actual weed plant, and it can also kill weed seeds retained on the soil surface.

“Once weed seeds are buried below the soil surface, killing seed using heat is difficult,” says Spaunhorst. “The soil acts as an insulator to protect seeds, similar to a heat shield on a space shuttle that protects astronauts as they reenter into Earth’s atmosphere. But, the temperature, length of time of exposure, and other variables need to be determined for each weed species.”

During 2017 and 2018, researchers from Spaunhorst’s team researched the effects of heat on weed seeds in the lab. After collecting seeds, they applied temperatures of 100, 150 and 200°C to various groups. Times of heat exposure varied as well.

Once the seeds had been heat-treated, they were planted to see if they would grow in a greenhouse. This is where the seeds from the two weedy species differed in how they reacted to heat. This makes sense, because each is from a different family of plants.

A more important variable for heat tolerance is that the seeds of the plant have different structures. “Itchgrass seed is protected by an outer coating, similar to a husk,” says Spaunhorst. “However, divine nightshade seeds are located inside a fluid-filled berry. The fluid inside the berry seems to insulate the seed from high temperatures for short periods.”

Now that the team has collected lab and greenhouse results, the next step will be to apply these conditions in the field. It’s easy to control temperatures in an oven, but care will

Northeast Ohio Agriculture

Sugarcane is a grassy crop, in the category of “C4” plants. They are very efficient at capturing energy from the sun, and grow well in hot conditions, like the heat of Louisiana. Sugarcane is one source of our common table sugar. Credit: Doug Spaunhorst

Divine nightshade in foreground with sugarcane in background. Weeds steal nutrients and sunlight from crops - and nightshade can reduce sucrose yields in sugarcane by up to 43%. Researchers are looking at ways to control this weed through heat treatment. Credit: Doug Spaunhorst
need to be taken to get the temperatures just right in the field. Wet crop residue in the field may not completely burn and produce temperatures too low to kill weed seeds. The burns will be started just like prairie burns – a little fuel, some wind, and a match.

“We know that high temperatures can kill itchgrass and divine nightshade seed,” says Spaunhorst. “Now we will experiment with temperature probes in the soil – both at the surface and just below. We expect that residue density and moisture will be significant factors in the next results. After we do the field burns, we will collect the seed and attempt to grow plants in the greenhouse again.”

Spaunhorst and his team have taken a process already in place – burning the residue of sugarcane – to see if it can be optimized as a dual-purpose procedure. If so, they can help sugarcane farmers keep their yields high, with fewer nutrient-stealing weeds getting in the way.

Spaunhorst’s research was recently published in *Agronomy Journal*. This work was partially funded through the American Sugar Cane League of the USA, Inc. [https://ipmdata.ipmcenters.org/documents/cropprofiles/LAsugarcane2014.pdf](https://ipmdata.ipmcenters.org/documents/cropprofiles/LAsugarcane2014.pdf)

To learn more about plant metabolism, read this blog: [https://sustainable-secure-food-blog.com/2019/02/22/do-crops-have-different-metabolisms-like-people/](https://sustainable-secure-food-blog.com/2019/02/22/do-crops-have-different-metabolisms-like-people/)

### Agricultural & Natural Resources Income Tax Issues Webinar

By: Barry Ward, Director, OSU Income Tax Schools


Tax practitioners, farmers and farmland owners are encouraged to connect to the Agricultural and Natural Resources Income Tax Issues Webinar on Dec. 16 from 9 a.m. to 3 p.m. The event is sponsored by Ohio State University Extension and participants can attend the webinar at host locations throughout Ohio or connect at home or office.

The webinar focuses on issues specific to farm tax returns related to agriculture and natural resources, and will highlight timely topics and key regulations of the Tax Cuts and Jobs Act.

The program is an intermediate-level course for tax preparers whose clients include farmers and rural landowners. Farmers who prepare and file their own taxes will also benefit from the webinar.

Topics in the Ag Tax Issues Workbook that is provided to all participants include:
Tax planning for farmers

Proposed §199A Cooperative Regulations

199A and farm rentals

Form 4797 issues

Form 4562 depreciation and expensing issues

Disaster-related tax issues

Farming C corporations electing S corporation status

Getting out of the farming business

Allocating purchase price to depreciable items

Discounted sales and leases

Current H2A labor issues

Taxation of contract feeding arrangements

Industrial hemp considerations

Timber tax issues

Conservation easements

Case study and forms update

The cost for the one-day school is $150, and applications have been made for the following continuing education credits:

Accountancy Board of Ohio, CPAs (6 hours)
Office of Professional Responsibility, IRS (6 hours)
Supreme Court of Ohio, Attorneys (5 hours)

Registration includes the Agricultural Tax Issues Workbook. The deadline to register is Dec. 6 to ensure participants will receive the workbook in the mail before the workshop. The live webinar, which will also feature a real-time Q-and-A, can be viewed at several host locations statewide and will include lunch. Participants also have the option to view the webinar from home if unable to attend a host location. For those who choose not to
attend at a host location, a web address for the webinar will be sent in advance of the Dec. 16 presentation.

Host locations include:

Auglaize County, OSU Extension Office, 208 S. Blackhoof St., Wapakoneta

Clermont County, OSU Extension Office, 1000 Locust St., Owensville

Putnam County, OSU Extension Office, 1206 E. Second St., Ottawa

Wayne County, Wayne County Administration Building, 428 West Liberty St., Wooster

Wyandot County, Elks Lodge, 320 E. Wyandot Ave., Upper Sandusky

More information on the workshop, including how to register, can be found at go.osu.edu/agissuesreg

Contact Barry Ward at 614-688-3959, ward.8@osu.edu or Julie Strawser at 614-292-2433, strawser.35@osu.edu with questions.

The 57th Farm Science Review

By: Ken Ford, Nathan Douridas, CCA
Source: https://agcrops.osu.edu/newsletter/corn-newsletter/2019-32/57th-farm-science-review

According to Nick Zachrich, the 57th Annual Farm Science Review saw attendance numbers with Tuesday 40,200, Wednesday 50,790 and Thursday 23,600 with a total attendance of 114,590. The weather for the event was sunny, dry with above normal temperatures.

A summary of the field crop demonstrations at the Farm Science Review are summarized by Nate Douridas, from a crop’s perspective, we had below average yields due to drought conditions that persisted in July and August. Soybean yields from 42-54 in 2.8 maturity group beans planted 4/18. Corn yields from a 95-day hybrid planted May 8 were 135-151 bu/ac. Corn moisture was 14-18%. NOTE, these maturities are not normally the recommended groups for the region. There are 500 acres dedicated to field demonstrations including demos and setup for all types of equipment.

The eFields team made up of Ohio State University Extension Specialist and Educators passed out free water and eField cozies during the field demonstrations with water totals of Tuesday 1,500, Wednesday 2,200 and Thursday 1,000 with a total of 4,700.
**Reduce, reuse, recycle: The future of phosphorus**

By: Materials provided by American Society of Agronomy.


When Hennig Brandt discovered the element phosphorus in 1669, it was a mistake. He was really looking for gold. But his mistake was a very important scientific discovery. What Brandt couldn't have realized was the importance of phosphorus to the future of farming.

Phosphorus is one of the necessary ingredients for healthy crop growth and yields. When farms were smaller and self-sufficient, farmers harvested their crops, and nutrients rarely left the farm. The family or animals consumed the food, and the farmer could spread manure from their animals onto the soil to rebuild nutrients. This was a fairly closed-loop phosphorus cycle.

But, as the world's population increased, so did food and nutrition needs. More of a farmer's harvest, and therefore nutrients, was sold off the farm. Agriculture adapted by developing many new growing methods, as well as fertilizers. Most phosphorus fertilizers use the world's supply of phosphate rock as a main ingredient. That main modern source is a finite resource and it's running out. Phosphate rock is also hard to mine and process.

"There is an urgent need to increase phosphorus use efficiency in agroecosystems," says Kimberley Schneider, a research scientist with Agriculture and Agri-Food Canada. "There are many chemical, physical and biological processes that affect the availability of phosphorus to crops." This is why farmers place great importance in having enough phosphorus for their crops.

**Crop breeding and cultivar selection**

Different plants can use phosphorus more efficiently than others. "Phosphorus use efficiency is the ability to yield more crop per unit of phosphorus taken up by the plant," explains Schneider. "There is potential for crop breeders to develop new varieties that use phosphorus in even more efficient ways. They can also breed crops that work with mycorrhizal fungi in the soil to help increase their phosphorus absorption. Focusing on breeding plants that work well in low phosphorus soils will take an interdisciplinary approach."

**Cropping system design and phosphorus use efficiency**

Since some crops can increase soil phosphorus availability for future crops, growers could focus on crop rotations that take advantage of this. Cover crops and green manures can also contribute to phosphorus availability in many conditions. For example, one study found sorghum did well with phosphorus use after alfalfa or red
clover, but not after sweet clover. Getting the right combinations for the right crops and fields will be important.

Soil organic matter's role in mineralizing phosphorus
Soil organic matter is known to indicate soil health. It can improve plant phosphorus availability by allowing for greater root access to phosphorus and by releasing plant available phosphorus. Currently, soil organic matter is not part of the soil fertility measurements on farms, so this is an area of future research potential.

Naturally occurring soil fungi to the rescue
Many soils contain one or more types of friendly fungus called arbuscular mycorrhizal fungi. They work with plant roots to exchange "life chores." The fungi help free up phosphorus and other nutrients, while the plants make sugar compounds that the fungi use for growth. Of course, the fungi and roots must be able to be near one another for this exchange to happen. Researchers are looking at the promise of building up and better utilizing mycorrhizal fungi populations in soils.

Recycling and recovering phosphorus
Phosphorus is the 6th most common element on earth. Yet, it is a limiting factor in crop yields. Excess phosphorus in the wrong place -- streams, lakes and other waterbodies - causes pollution. How did this come to be?

Let's trace the "life cycle" of a phosphorus molecule. Most phosphate rock is mined on the continents of Europe and Africa, although some deposits are available elsewhere. After it is made into fertilizer, this phosphorus is then moved to farms. From there, the phosphorus is used by a plant to make a product, perhaps a soybean. The soybean is removed from the farm and manufactured into tofu. It is then transported to your local grocery store, where you buy it and bring it home. If you live in a city, after you enjoy your meal of fried tofu, the waste your body produces flushes down the toilet. If you live in a rural area, it goes into the septic system.

Thus, the life cycle of this illustrative phosphorus molecule shows a broken cycle. The molecule originates far away from its final resting place. Because of modern day life, the phosphorus cycle that used to exist on farms is broken. The more urban society becomes, the more broken the phosphorus cycle is -- unless scientists come up with answers to close the loops again.

Agricultural scientists are working with wastewater managers to develop ways to put those deserving phosphorus molecules back to work on the farm. "While most currently available phosphorus recovery technologies may not seem economically viable, the environmental and social benefits are important," says Schneider. "There are also other
valuable products of phosphorus recovery, such as organic matter, other nutrients, and even water."

"Increasing phosphorus use efficiency in agroecosystems must be a priority to reduce reliance on fertilizer and to minimize the effects on the environment," says Schneider. "There are many possibilities for the agricultural system to improve the use of phosphorus. The outcome will be an agroecosystem that still feeds the world, while protecting the natural resources that help us grow our food and live healthy lives."

Journal Reference:

Extended Forecast from NOAA, Weather.gov
Cortland, OH

Jefferson, OH
Upcoming Events

Tree ID – Ashtabula – 9/27
Tree Identification: Ashtabula County

Friday, September 27th, 10 a.m. to 12 p.m.

Garrett Ormiston and Trish Fox from the Cleveland Museum of Natural History will be presenting on Tree ID. The class will be in two parts starting at the Ashtabula County District Library at 4335 Park Avenue in Ashtabula. They will focus on identifying trees by examining characteristics of leaves, flowers, fruit, bark and more. Various books, from simple dichotomous keys to botanical resources will be used. The class will then travel individually to the site of Indian Trails Park under the Smolen Gulf bridge, the longest covered bridge in America along the Ashtabula river. Here we will learn to apply what we learned in the classroom to identify the many native trees of Ohio.

Locations:
ACDL - 4335 Park Avenue, Ashtabula, OH 44004
Smolen Gulf Bridge - 7001 State Road, Ashtabula, OH 44004

Cost: Free
Details: Rain or shine, personal transportation required
Contact information: Call OSU Extension – Ashtabula at 440-576-9008 for more information

Ashtabula.osu.edu

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Gardeners’ delight,,,,The original 10 acres of Kridler Gardens started as a botanical garden in 1965, when owner Barrie Kridler moved back to Homeworth after a 20-year residence in Texas. Sixty-five additional acres were added to the Homeworth operation in 1990.

Thousands of tree, shrubs and perennials have been incorporated into the grounds in order to showcase their landscape value. Thirteen greenhouses complete the operation including: 500 varieties of hosta, rare trees, shrubs, perennials and garden-related items.

Itoh Peonies (i.e. Intersectional Peonies) are an intentional mix of two amazing plants. Borrowing hardiness of traditional garden peonies, Itoh upright growing style, deeply-cut foliage, and prolific blooms of beloved tree peonies compliment their tailored shape. Itoh’s produce enormous flowers from many buds. There are often 50 blooms per plant in one season. Come learn how these Peonies can compliment your garden.

Cost: $20/ person; $15/Trumbull MGVs; includes light refreshments

October 17, 2019, 10:00 AM-Noon, Trumbull OSU Extension
520 W. Main Street, Cortland, OH 44410, 330-638-6783

Complete the below information and send with payment to OSU Extension Trumbull County, 520 West Main Street, Cortland, OH 44410. Please make checks payable to OSU Extension.

Name:____________________________________________________________________________________
Phone:_________________________________ Email:_________________________________________
Number Attending:_____________X $20/person = ________________________ Total Enclosed $_________
Farm to City
...and everything in between Fall Tour

Drive it yourself or join us on wagon ride tours!

Mesopotamia Township
Saturday, September 28
10 am - 4 pm

• TOUR • PICKUP • WAGON SHUTTLE • PARKING •

WAGON RIDES & PARKING AVAILABLE AT:
Meso Expo Center | 4275 Kinsman Rd. NW | North Bloomfield
Welcome

Welcome to the 2019 Farm to City Fall Tour. We are excited to share agricultural, educational, and fun tour sites to share the story of agriculture. We hope the tour sites provide insight on how important agriculture is to all of our daily lives, from the food we eat to the table you are eating at, and all the things that come between.

Tour Options

Self Drive Tour: This allows you to visit each site at your own pace between the hours of 10 am - 4 pm.

Wagon Shuttle Tours: This option allows to board the wagon shuttle at the Mespo Expo Center and enjoy a leisurely ride to the various stops. Please allow approximately 3-4 hours to enjoy the ride and tour sites. Wagons will depart the Expo Center parking lot from 10 am - 2 pm and are NOT on a set schedule.

Parking

You will find general parking for the wagon shuttles located at the Mespo Expo Center located at:

4275 KINSMAN RD NW,
NORTH BLOOMFIELD (MESOPOTAMIA), OH 44450

You will find limited parking at each of the tour stops. Please be patient and courteous to your fellow visitors and business patrons.

Tour Sites

2. MESOPOTAMIA FIRE DEPARTMENT

8800 OH 534
Middlefield, OH 44062

Mesopotamia Fire was founded in 1976. The fire department started in 1977 and has grown each year with the addition of great volunteers and equipment to face the challenges of a small town. When they first began taking calls, Mesopotamia Fire would run around 25 to 30 calls a year. Currently they now answer to around 150 to 200 calls a year. There are two engines, a tanker, and a rescue and pickup truck, as well as a grass unit. The chief of Mespo Fire is Chief Larry Loza. They currently have 17 members on the department and are always looking for more. If interested please call at the station at 440.693.4602.

3. END OF THE COMMONS GENERAL STORE

8719 OH 534
Mesopotamia, OH 44439

Located in the heart of the Amish country, this family-owned general store serves the local Amish community and provides visitors with a glimpse into the past. One of Ohio’s oldest general stores, it has been in continuous operation since 1840. Today, it is owned by the Schaden family who have stocked over 10,000 feet of retail space with over 1,000 bulk food items; hard to find housewares; hardware; old-time soda pop, and old fashioned candies.; homemade fudge; and a hand-dipped ice cream. Stop and browse their antique collection. Pick up a unique gift, or have a bite to eat at the Commons Cafe located inside the store. Located across the street from the store sits the World’s Largest Amish Horse & Buggy, which stands 14 feet high and 32 feet long!

4. MILLERS FURNITURE

8847 N Girdle Road
Middlefield, OH 44062

After spending many years growing and selling vegetables while the children were growing up, the Millers have switched gears and are now offering handcrafted, Ohio-built hardwood furniture for sale. Check out their quality-built dining room sets, bedroom collections, and office furniture which are on display in their showroom and available in most woods and finishes. They can also custom build furniture to suit your needs. Sorry, no credit cards are accepted. All sales are cash or check only.

5. RIDGEVIEW FARM

5488 Kinsman Rd (SR 87)
Middlefield, Ohio 44062
440.693.4000 | ridgeviewfarm.com

Ridgeview Farm, is a family-owned and operated 101-acre farm purchased in 1926 and has been in the Grover family for four generations. The fifth generation of Grovers are currently growing up on the same land. Steve and Sharon Grover, along with their 5 children, handle the day to day operation of this working farm. Admission to the farm is free. Enjoy a hayride and/or the corn maze for a small fee. Seasonal fruit and vegetables are available in their country market, where you will also find pumpkins, fall decor, jams, jellies, and canned goods. The kids will love the petting barn!
6. KEMPF’S CUSTOM BUTCHERING & RETAIL MEAT STORE
5161 Parks West Rd
Middlefield, Ohio 44062
440.693.9913
Kempf’s is a fully licensed, USDA inspected facility, offering custom meat harvesting and processing all under the same roof. They also offer retail locally raised meat sales through their store, where you can purchase fresh hamburger and their own fresh breakfast sausage. Also available are frozen meats, patties, links, and more. This tour site will provide visitors with a tour of the facilities and the opportunity to explore the retail store. No harvesting will be occurring during the tour.
Sorry, all sales are cash only. No credit cards accepted.

7. KUHNS MFG LLC
4210 Kinsman Road (SR 87), Mesopotamia, Ohio
440.693.4096 | KuhnsMfg.com
This facility designs and manufactures innovative equipment such as accumulators and grabbers for handling hay bales. When Kenny Kuhns moved to Ohio, he realized the need for more reliable small square bale equipment. Inconsistent and quick-changing weather made it a necessity to have a more efficient method for pick-up, transportation, and storage of small bales. In the summer of 2002 he began building an accumulator that would arrange the bales into groups by using an incline, gates, and gravity. Kuhns Mfg has made changes over the years to achieve a better end product. Yet, the simple incline design has always stayed the same. Kenny’s memories of hay being rained on because of equipment failure still drive the design, quality, and service at Kuhns Mfg today. All equipment is manufactured and welded at the Mesopotamia location and shipped across North America and around the world. Tours of this operation will demonstrate how the farm equipment works and how it is assembled.

Food Available
*Please note all food is at your own expense

MESOPOTAMIA TOWN HALL
8686 OH 534, Mesopotamia
Breakfast from 7:30-11:30 am | Prepared by the Bloomfield-Mespo Athletic Department
Lunch 12-4 pm | Prepared by the Bloomfield Senior Class

THE COMMONS CAFE
(located in End of the Commons General Store)
8719 OH 534, Mesopotamia

Points of Interest
Free time? Mespo Township is full of historical and family friendly sites. Feel free to visit any of these local points of interest.

BETWEEN TWO RIVERS TRADING COMPANY
4367 Kinsman Rd (SR 87), Mesopotamia
330.885.0005

D&S FARM & GARDEN SUPPLY
4738 Gates East Road, Middlefield

MESOPOTAMIA CHAPEL
SR 87, Middlefield

MULLET’S FOOTWEAR
4853 Kinsman Rd, Middlefield

OLD STONE HOUSE BED & BREAKFAST
8505 State Route 534, Mesopotamia
oldstonehousemespo.com

SACRED STONES-MESOPOTAMIA CEMETERY
Township Hwy 1045, Middlefield

WORLD’S LARGEST AMISH HORSE & BUGGY
Mesopotamia Village and Historic District
Located across from End of the Commons
(corner of SR 87 and Phelps Creek Rd.
8719 SR 534, Mesopotamia

• Please leave pets at home
• All stops are NO smoking
• Restroom facilities will be available
• Food and dining available for purchase
1. MESPO EXPO CENTER  
4275 KINSMAN RD NW | NORTH BLOOMFIELD

2. MESOPOTAMIA FIRE DEPARTMENT  
8800 OH 534 | MIDDLEFIELD

3. END OF THE COMMONS GENERAL STORE  
8719 OH 534 | MESOPOTAMIA

4. MILLERS FURNITURE  
8847 N GIRDLE ROAD | MIDDLEFIELD

5. RIDGEVIEW FARM  
5488 KINSMAN RD (SR 87) | MIDDLEFIELD

6. KEMPF’S CUSTOM BUTCHERING & RETAIL MEAT STORE  
5161 PARKS WEST RD | MIDDLEFIELD

7. KUHNS MFG LLC  
4210 KINSMAN ROAD (SR 87), MESOPOTAMIA

Funding for this brochure provided by Trumbull County Farm Bureau  trumbull@ofbf.org  | 440.426.2195

ARE YOU LOST? CALL MANDY AT 440.812.6709 OR AMY AT 724.967.2603