

Welcome to the Kalamazoo Conservation District's Next Generation of Agriculture 2023 Tour

Conservation District Board of Directors

Ed Cagney, Chair

Lynn Coville, Vice Chair

Tricia Keala, Director

Mike Klooster, Treasurer

David Benac, Director

Conservation District

Elizabeth Rochow, District Manager

Linda Zabik, Conservation District Molly Buckham, MAEAP Technician Program Assistant

Sara Huetteman, BCK-CISMA, housed at Barry CD

Patrick Gordan, Produce Safety Technician, housed at Berrien CD

Natural Resources Conservation Service (NRCS)



Di'Shun Melbert, District Conservationist

Brandon Fisher, Soil Conservationist

Thank you for attending our tour. We hold these tours perodiocially so the elected officials and decision makers of Kalamazoo County can learn more about the economic and environmental importance of agriculture in Kalamazoo county.



Next Generation of Agriculture Tour Itinerary

11:00 am	Arrive - Check in at Weinberg Farm
11:15 am	Welcome and Presentations Presenters: Ed Cagney, Board Chair of the Kalamazoo Conservation District & Elizabeth Rochow, Kalamazoo Conservation District Manager MAEAP: Molly Buckham, CISMA: Sara Huetteman, MACD: Dan Moilanen Michigan Farm Bureau: Sarah Pion, KRESA: Noreen Heikes
11:45 am	Lunch
12:15 pm	Precision Agriculture Presenters: Ed Cagney, Ed Cagney Farm & Mitch Kline, Full Swath Harvesting, David Penterics, Climate FieldView [™]
12:45 pm	Regenerative Farming Practices Presenters: Lynn Coville, Cross County Farm & Ricardo Miller, Villa Miller Farm
1:15 pm	Load bus and depart for Myers Farm
1:30 pm	Arrive at Myers Farm - Tour of Dairy Host and Presenter: Dawn Myers
2:15 pm	Load bus and depart for Great Lakes Greenhouses Presenter: Jeremy Jubenville, MSUE
2:30 pm	Arrive at Great Lakes Greenhouses Host and Presenter: Mike Klooster of Great Lakes Greenhouses
2:45 pm	Short drive and arrive at The Giving Garden Presenter: Brenda Kolkman, MSU Master Gardener
3:00 pm	Depart for Wiley Farms Presenter: Di'Shun Melbert, NRCS District Conservationist
3:15 pm	Arrive at Wiley Farms: Specialty Farm Conservation Host and Presenter: Kurt Wiley, Owner
3:45 pm	Soil Health Rainfall Simulator Demonstration Presenters: Christine Charles, MSUE and Tayler Ulbrich, MSU
4:30 pm	Load bus and return to Weinberg Farm
	Thank you for coming!



Next Generation of Agriculture Tour Participants



Dr. Tayler Ulbrich is the Associate Director for Engagement with the Long-Term Agroecosystem Research program (LTAR) based at Michigan State University's W.K. Kellogg Biological Station (KBS). The LTAR aims to co-design research with stakeholders to inform and support the adoption of environmentally and economically sustainable agricultural practices. Tayler works closely with agricultural professionals and scientists to identify opportunities to make KBS LTAR research more applicable and meaningful for Michigan farmers. She received her B.S. in Biology from Grinnell College and her PhD from Michigan State University, where she used an interdisciplinary approach to study the ecological and social dynamics of soil health. Tayler can be reached at (269) 671-5117 or chicoin1@msu.edu.



Christine Charles is a field crops and regenerative agriculture Extension Educator with Michigan State University (MSU). Christine works alongside farmers, other MSU educators, industry partners, and researchers to support and increase the adoption of regenerative practices, like those that improve soil health and weather resiliency, without losing sight of agronomic needs and profitability in Michigan field crop systems. She received her B.S. in Soil Science from Purdue University and her M.S. in Environmental Science, with a focus on soil microbiology, from Ohio State University. Christine currently sits on the stakeholder advisory board for the Long-Term Agroecosystem Research (LTAR) site at the W.K. Kellogg Biological Station (KBS). Christine can be reached at (269) 671-5117 or charl122@msu.edu.



Jeremy Jubenville is the southwest Michigan floriculture and greenhouse Extension Educator with MSU. He has a B.S. in Biology from Western Michigan University, where he focused on plant biology and chemistry, and an M.S. in Entomology from Michigan State University that emphasized spatial ecology, molecular entomology, and biological control. He brings professional crop scouting and advising experience to this Extension role with interests that include diagnostics & troubleshooting, biological control, water quality, and greenhouse technology. Jeremy can be reached at (269) 492-2813 or jubenvi3@msu.edu.



Dan Moilanen has been involved with the Michigan Association of Conservation Districts since 2019, when he was first elected to the Genesee Conservation District Board of Directors. As a Legislative Staffer at the time, Dan joined MACD's Legislative Workgroup to help deliver collective legislative goals. In 2021, Dan took on the role of Executive Director and hit the ground running. Dan brings to the table a wealth of legislative institution insight, an extensive professional network, a diverse skillset, technological knowledge, and first-hand experience as a CD Director. Prior to his work in the legislature, Dan was the owner and operator of Flint's first food truck business, Vehicle City Tacos, where he successfully engaged in place-making and social entrepreneurial efforts. In addition to his work in conservation, Dan has a passion for music. He serves on the Flint Institute of Music Board of Trustees and

plays in his own band in his spare time.



Sarah Pion is the Senior Regional Manager for the Michigan Farm Bureau serving Southwest Michigan. Sarah works with the five county Farm Bureaus in the region assisting with membership growth, increasing member engagement, leadership development, and Farm Bureau policy and program implementation and execution.

Sarah is a native of Ingham County and grew up in Mason. She is a graduate of Michigan State University and North Carolina State University where she completed bachelor's and master's degrees in animal science and nutrition. Upon moving back to her home state of Michigan in 2002, Sarah served as the Southwest Area Swine Specialist with Michigan State University Extension. In 2003, Sarah was hired by the

Michigan Farm Bureau as the Southwest Regional Representative and has been with the company for the past 20 years. Sarah currently resides in southern Cass County with her husband, Ben and daughter, Ashley. Sarah can be reached by email at spion@michfb.com.

Noreen Heikes teaches Veterinary Science and Agrisciences under the umbrella of KRESA's Education for Employment program, which provides outstanding career and technical education to students throughout Kalamazoo County. Noreen's emphasis is on linking basic science knowledge with real-world, hands-on community-based projects. These have included providing veterinary care for local farms, running a classroom cat foster, planting a food forest, landscaping the agriscience area, taking students to Africa to work with wildlife veterinarians, and more. In addition, Noreen teaches high school biology classes as needed, and is the advisor for the local FFA and HOSA chapters.



Lynn Coville of Cross County Farm has LOVED to farm for all his life. He grew up farming with his father and after he got married, went off to work to support his family. Lynn was planning to go back to farming after his retirement but in 2012 after his father had a stroke, he farmed along with his full-time job. After retirement in 2015, he immersed himself full time into farming. Lynn now farms 850 acres of no till corn and no till soybeans, between Kalamazoo and Calhoun County. Hence...the farm's name," Cross County Farm." Lynn is MAEAP verified in both the farmstead and cropping systems.



Mitch and Brandie Kline farm near Scotts in Kalamazoo County, farming 1,200 acres of corn, soybeans, wheat, and hay. They also have a custom seed-corn harvesting business picking upwards of 2,500 acres annually. Off the farm Brandie teaches fourth grade. On the farm she and Mitch employ four full-timers and several seasonal workers. "Our team is essential to the success and growth of our farm," they say, with Mitch managing day-to-day operations while Brandie handles the office end.

"We're proud of the success of our hay operation and seed-corn harvesting," Mitch said. "We're shipping hay nationally, which has greatly supported our business growth. Seed-corn harvesting started as a dream and turned into a reality that took the farm to the next level". Moving forward they anticipate buying more of their own farm ground and setting up an operations headquarters including barns and a house.



Ed Cagney, of Ed Cagney Farms, farms soybeans, corn, wheat, hay, seed corn and snap beans. The farm in Scotts, just outside of Kalamazoo, was first farmed by Cagney's great-grandfather Edward Cagney, who bought the original 40 acres in 1869. The farm was then passed to his grandfather William Cagney and then to his dad, Bill. In 1979 when Ed moved home and started farming full time, the farm was 500 acres with some cattle, and the biggest tractor was a 90-horse. Today, Cagney has more

than 900 acres of irrigated seed corn, 240 acres of irrigated snap beans, 900 acres of commercial corn, about 700 acres of soybeans, 120 acres of wheat and lots of high-tech equipment.

To protect the soil, Cagney uses cover crops after green beans and oats to help tie up nutrients. He also gridsamples and applies lime by variable rate. The farm has hosted numerous research plots and field event and participates with MAEAP for the farmstead and cropping systems.





The Giving Garden is a volunteer project of the Master Gardeners of Kalamazoo County, sponsored by Michigan State University Extension – in collaboration with Kalamazoo Loaves & Fishes. The central mission of the project is to provide fresh vegetables to the underserved and those in need. All the food grown is donated to Kalamazoo Loaves & Fishes.

The Giving Garden began in 1997, by Master Gardener Mike Blakely. Since its inception, the Giving Garden has provided 6,000 - 10,000+ pounds of vegetables annually. The Giving

Garden is located at 5070 East N Avenue, the southeast corner of Sprinkle and Kilgore Road (N Avenue), on land owned by Humphrey Products and Kendall Electric who generously allow the Master Gardeners to grow vegetables on it. The primary vegetables grown include tomatoes, peppers, summer and winter squash, potatoes, cabbage, pumpkins, melons, garlic, onions, leeks, collards, kale and cucumbers. A core volunteer group of Extension Master Gardeners coordinate activities at the garden from early May to late October each year. Thanks to Brenda Kolkman for our tour!



Myers Farms LLC is a fourth-generation farm, currently owned and operated by Richard, Dawn, and two sons, Scott and Jason Myers. Richard's grandfather purchased the farm in 1932. These days, the family farms over 3,000 acres of corn, alfalfa hay, wheat, and soybeans, and they milk 850 cows at the dairy. Myers Farms LLC sells their milk to Prairie Farms, a farmer-owned cooperative, and their milk is processed locally in Battle Creek, Michigan.

Richard and Dawn have four children: Alisha (Matt) Gibson, Scott (Tiffanie), Todd (Madison), and Jason Myers. They also have three grandchildren: Caleb and Brooklyn Gibson, and Walker Myers. The Myers family's vision is for the farm to continue as a generational family business and to provide a quality product for consumer consumption.



Great Lakes Greenhouses was established by Mike and Linda Klooster in 1981. Starting with 40,560 square feet, they have expanded to 355,320 square feet of greenhouse space and produce more than 15 million plants annually. Their distribution network covers multiple states, ranging from Minnesota to Florida. The greenhouses are equipped with automated watering systems and are controlled by computer technology to maintain optimal conditions. The company has 10 full-time and 30 seasonal employees. The greenhouse is MAEAP verified in both the farmstead and cropping systems.

Ricardo Miller, of Villa Miller Farms, has been an early adopter of much of the technology that has become available in the last several decades. Along with his father Henry, he grows seed corn along with some diverse rotations including soybeans, wheat, and snap beans as well as numerous cover crops on all 1,800 acres of land he is farming. The tillage methods on the farm have transitioned from conventional tillage with moldboard plows to mulch tillage with chisel plows and cover crops. After attempting several times to move some acres to no-till he finally settled on strip-till in 2003. Ricardo consults with other farms to help them transition to conservation tillage and other regenerative farming practices.



David Penterics is a representative of Climate FieldView[™]. Climate FieldView[™] enables a producer to collect, store and analyze data on one easy-to-use platform. These digital tools help analyze crop performance to help farmers make informed decisions and maximize productivity. More information can be found at www.climate.com.

Locally sourced food products and door prizes are from the following Kalamazoo County farms:



Family owned and operated since 1956, mother and son duo **Caroline and Kurt Wiley** are currently farming about 15 acres along with two high tunnels and a greenhouse. Kurt sells a diverse range of produce at his own roadside stand, Wiley Farms Veggie Shed and to wholesale markets. Kurt offers a Community Supporting Agriculture (CSA) program, which consists of individuals who pledge support to a farm operation so that the farmland becomes that community's farm, with the growers and consumers providing mutual support and sharing the risks and benefits of food production. Members sign a contract and pay an upfront cost to help support the farm and, in return, receive a healthy supply of seasonal fresh produce for 22

weeks of the growing season. Kurt uses sustainable farming practices at his farm and strives to provide healthy, nutrient-rich produce. Wiley Farm has worked with the conservation district for years and have participated with MAEAP since 2015.



Established in 1857, **Russell Farm** stands as a time-honored presence at 5616 N Riverview Drive in Kalamazoo, Michigan. They are a family farm that offers vegetables, herbs, and several varieties of flowers. Rick and Gail are regulars at the Kalamazoo Farmer's Market and are committed to sharing their harvest with the community. Russell Farms is MAEAP verified in both the Farmstead and Cropping systems.

Continued – Locally sourced food products and door prizes are from the following Kalamazoo County Farms:



The **Bates Family Homestead** is a small regenerative family farm in the Kalamazoo area. Our family is committed to raising our flocks humanely and to delivering healthy food to our local community. We currently focus on Pasture raised poultry and goat. We believe in keeping food local so we source everything we can from within 50 miles of the farm including our baby chicks and our non-GMO grain. The Bates Family Homestead is currently working on their MAEAP verification.



Tiny Giant Farm was founded in 2018 on the belief that small, everyday actions can have a large, lasting impact. We choose to farm small because it forces us to farm well, to farm sustainably, and to farm responsibly. It allows us to pay attention to detail. To stay connected. To invest the best of ourselves in the small amount of land that we have to provide the best possible produce to you, our community. We never use artificial chemicals, fertilizers, pesticides, or herbicides, not just because we don't 'believe' in them, but because we don't want them in our backyard, just like you don't want them in your food. Staying

small allows us to grow you better, fresher, more nutritious veggies, so that we can help grow a happier, healthier community here in Kalamazoo. We are proud to be Certified Naturally Grown and have been MAEAP verified since 2019!



J&S Farms is a small family-owned farming operation, consisting of myself, Jim, my wife, Samantha, our children, parents, brothers, sisters, and nephews. We grow produce primarily for the local farmers' markets, local groceries and at our roadside stand. I tell our customers, "We grow a little of a lot of stuff" including 2-acres of asparagus, 3-acres of peaches and nectarines, a half-acre of apples, quarter-acre potatoes, three-300-foot rows of green and wax beans and more! We use conventional farming practices, and we are MAEAP verified.

In 2001, we bought our property here in the Kalamazoo area that was a cornfield. In 2002, we planted our first fruit trees and in 2003 we built our house and barn. In 2004 we planted asparagus and have been expanding ever since. In 2012, I made the jump from working full time job as well as farming to full time farming for two reasons. First, our farm had grown to the point where it needed fulltime care and second, and most importantly, was to raise my favorite crop, OUR CHILDREN!!



AACORN was started in 2011, when parents of individuals with Autism Spectrum Disorder (ASD) in Southwest Michigan formed AACORN (Adult Agricultural Community Options for Residential Needs) Farm. The group dreamed of appropriate housing, meaningful work, and therapeutic activities for adults with ASD. Driven by the need to serve adults no longer in the school system, a program to provide enrichment opportunities for adults with developmental disabilities was the first focus. The program has grown to serve 15-20 adults and was opened to adults with any developmental disability. Also, classes from the KRESA young adult program began participating. Culinary activities, sewing, and making goat milk soap and other goat milk products were

added to the curriculum. Participants began to connect to the community, by making regular deliveries of fresh eggs and hand-tied fleece blankets to Kalamazoo's YWCA. The farm currently grows vegetables and has some small livestock including goats, chickens, pigs, and boars. AACORN is located on 40-acre MAEAP verified farm and was awarded Conservation Farm of the Year for 2021.



Next Generation of Agriculture Tour KCD and NRCS Contact Information

Conservation District

Elizabeth Rochow, District Manager: kalamazooconservation@gmail.com, 269-775-3368

Linda Zabik, Conservation District Program Assistant: linda.zabik@macd.org, 269-775-3368



Molly Buckham, MAEAP Technician: molly.buckham@macd.org, 269-775-3368



Sara Huetteman, BCK-CISMA (housed at Barry CD): <u>bckcisma@gmail.com</u>



Patrick Gordan, Produce Safety Technician (housed at Berrien CD): <u>patrick.gordon@macd.org</u>, 269-471-9111

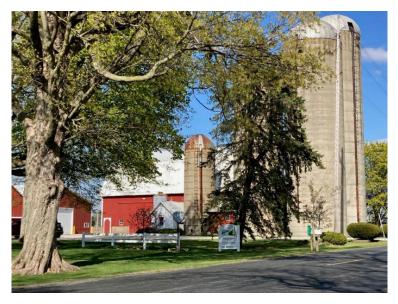
Natural Resources Conservation Service (NRCS) Staff



Di'Shun Melbert, District Conservationist: <u>dishun.melbert@usda.gov</u>, 269-382-5121

Brandon Fisher, Soil Conservationist: brandon.fisher@usda.gov, 269-382-5121

The Kalamazoo Conservation District and NRCS are in the USDA Service Center at 5950 Portage Ave, Suite B, Portage, MI.



We would like to thank all of those who sat on our planning committee: Sarah Pion, Lisa Robb, Jeffrey Hillman, Allyson Wentela, Di'Shun Melbert, and John Gisler.

We would also like to thank Jo Weinberg for hosting this event at her beautiful farm.



Next Generation of Agriculture Tour Acronyms & Definitions

Agency and Organizations:

KCD - Kalamazoo Conservation District
BCK-CISMA - Barry, Calhoun, Kalamazoo-Cooperative Invasive Species Management Area
MACD - Michigan Association of Conservation Districts
MAEAP - Michigan Agriculture Environmental Assurance Program
USDA - United States Department of Agriculture
NRCS - Natural Resource Conservation Service
FSA -Farm Service Agency is a USDA agency which serves all farmers, ranchers and agricultural partners through the delivery of effective, efficient agricultural programs for all Americans
MDARD - Michigan Department of Agriculture and Rural Development
MSUE - Michigan State University Extension
KRESA - Kalamazoo Regional Education Service Area
HOSA- Future Health Professionals, formerly known as Health Occupations Students of America, is an international career and technical student organization.
FFA – Future Farmers of America

NRCS Farm Bill Programs:

EQIP - Environmental Quality Incentive Program. A federally funded voluntary program helps farmers maintain or improve production while conserving natural resources on working landscapes.

CSP - Conservation Stewardship Program. A federally funded voluntary program that offers technical and financial assistance to help agricultural and forest producers take their conservation efforts to the next level. **CRP** - Conservation Reserve Program. A federally funded voluntary program that contracts with agricultural producers so that environmentally sensitive agricultural land is not farmed or ranched, but instead devoted to conservation benefits.

Definitions:

Sustainable vs. Regenerative Farming: Sustainable practices seek to maintain the same, whereas **regenerative** practices recognize that natural systems are currently impacted, and it applies management techniques to restore the system to improved productivity.

High tunnel - High tunnels are passively heated and ventilated, plastic-covered structures. In terms of environmental protection and control, they stand squarely between open field and managed greenhouse. **Greenhouse** - Greenhouses are frames covered with a transparent material in which plants are grown under controlled environmental conditions.

CSA - Community Supported Agriculture. Interested consumers purchase a share (a "membership" or a "subscription") from a farmer and in return receive a box of seasonal produce and/or farm products each week throughout the farming season.

Community Garden - A community garden is a piece of land gardened or cultivated by a group of people individually or collectively. Often, the land is divided into individual plots. Each individual gardener is responsible for their own plot and owns the production of their plot.

Conventional vs. Conservation Tillage Methods: Conventional tillage incorporates or buries most of the crop residue into the soil leaving the soil surface bare and susceptible to the erosive forces of wind and water. Whenever possible, most farmers are moving away from this type of farming. **Conservation tillage** strives to keep at least 30% of the crop residue remains on the field following harvest. This can reduce erosion by protecting the soil surface and allowing water to infiltrate.

Till - to break up soil and prepare land for planting.

No-till farming is the practice of planting crops without tilling the soil.

Disk Plows are often used in conventional tillage for plowing in dry, rocky, new farming areas, or wastelands. **Strip till** is a field tillage system that combines no-till and full tillage to produce row crops. Narrow strips 6 to 12 inches wide are tilled in crop stubble, with the area between the rows left undisturbed.

Mulch tillage is a form of conservation tillage that involves leaving a minimum of one-third of the soil surface covered with stubble mulch. This method is designed to reduce the amount of tillage while maintaining a layer of organic material on the soil surface.

Chisel Plows are used in conventional tillage and is equipped with narrow, double-ended shovels, or chisel points, mounted on long shanks. These points rip through the soil and stir it but do not invert and pulverize as well as the moldboard and disk plows.

Moldboard Plows are used in conventional tillage. It cuts, lifts, and turns soil at least partly upside down by means of a curved plate, or moldboard.

Cover crops are plants grown primarily to benefit the successful growth of other future crops and are planted to cover the soil rather than for the purpose of being harvested. They help with soil erosion, improve soil health, crowd out weeds, control pests and diseases, and increase biodiversity.

Row Crop vs. Specialty Crop: Row crops are planted in densely seeded, usually machine-laid rows across an entire field. Most row crops are "annual" food and fiber plants that can be mechanically planted, irrigated, fertilized, and harvested every year. Examples of row crops include corn, sunflower, potato, canola, dry bean, field pea, flax, safflower, buckwheat, cotton, maize, soybeans, and sugar beets. **Specialty crops** include fruits and vegetables, tree nuts, dried fruits and horticulture and nursery crops, including floriculture and make up almost a third of total crop sales in the US.

NMP - Nutrient Management Plan. These plans Incorporate the management of the amount (rate), source, placement (method of application), and timing of plant nutrients and soil amendments. The purpose of an NMP is to budget, supply, and conserve nutrients for plant production.

4 R's - The **right fertilizer** source applied at the **right rate**, the **right time**, and the **right place** for a crop producing sustainable economic, social, and environmental outcomes.

Precision agriculture is a farming management concept based on observing, measuring, and responding to inter- and intra-field variety in crops. It employs data from multiple sources to improve yields and increase the cost-effectiveness of management strategies. It relies on technology and advanced equipment.

GAAMPS – Generally Accepted Agriculture and Management Practices: are guidelines for farm management that help promote environmentally responsible agriculture. They were developed and adopted by the Michigan Commission of Agriculture and Rural Development because of the Michigan Right to Farm Act, P.A. 93, enacted in 1981. Farms who follow GAAMPs are afforded a certain level of protection if a nuisance complaint is filed against them.

Dairy Definitions:

AI - Artificial Insemination. This is a standard practice on most dairy farms.

Dairy Cows are adult females that have had a calf.

Dairy Heifers are young females that have not had a calf of their own and under three years of age.

Bull - A male used to breed cows and heifers.

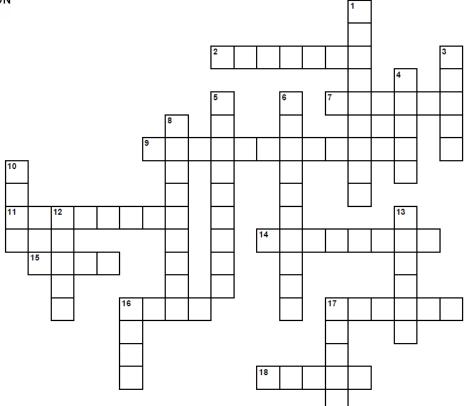
Steer - A castrated male that is only used for meat.

Dry Cows - A period during which a cow is not producing milk. This lasts between 50-70 days when a cow is preparing to give birth to a calf, which then begins a new lactation period.

Fresh Cow- A cow that has recently given birth to a calf and is producing milk.



Next Generation of Ag Crossword Puzzle



Across

[2] Implement for harvesting corn

[7] Chopped corn plants used to feed livestock

[9] A type of farming that recognizes that natural systems are currently impacted and it applies management techniques to restore the system to improve productivity.

[11] An area of the United States affected by severe soil erosion (caused by windstorms) in the early 1930s

[14] Plants need this nutrient, for healthy roots, foliage, and growth

[15] The vision of this agency: A world of clean and abundant water, healthy soils, resilient landscapes, and thriving agricultural communities through voluntary conservation.

[16] Any crop that is considered easily marketable such as corn or wheat

[17] Kalamazoo was once known for this crop up until the mid 1900s.

[18] A cow stores her milk in this

Down

[1] This type of agricultures relies on technology and advanced equipment

[3] These lakes hold approximately 90 percent of the fresh water in the United States

[4] Milk is approximately 97 percent of this

[5] Examples of these crops are vegetables, fruits, and nuts

[6] Used to replenish soil for growing crops

[8] The Kalamazoo Conservation District sold over 13,000 of these in 2023!

[10] NRCS and FSA are branches of this U.S. Department (abbr.)

[12] This is a byproduct of cereal grain and is used for livestock bedding

[13] A young female dairy cow

[16] This is Michigan's largest crop

[17] A crop used solely for conservation purposes

Solution can be found at https://www.kalamazooconservation.org/next-generation-ag-tour/



Thank you for coming to the Kalamazoo Conservation District's Next Generation of Agriculture 2023 Tour

Thank you to our partners and sponsors!



MICHIGAN STATE

HITHH

8

Greenhouses

Extension

KALAMAZOO COUNTY

FARM BURFAU®







ÉNBRIDGE

Ed Cagney Farm • Cross County Farm Myers Farm LLC • Villa Miller Farm Wiley Farms