



Farm to School Showcase: School Garden Tours

Video Transcript

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FAITH OAKLAND: I am Faith Oakland, and I am very excited to see so many people interested in the school garden tour. This is an event hosted by the Montana Team Nutrition Program at Montana State University. Montana Team Nutrition works in close collaboration with Montana Office of Public Instruction to provide training and guidance to Montana's schools on nutrition, education, school wellness and school nutrition programs. Montana Office of Public Instruction school nutrition program also is a host as well as Montana FoodCorps and we have other partners.

This event is funded in part by the USDA Farm to School grant and Montana Farm Bureau Foundation's promotion and Education Committee.

So, we have several presenters today. We have Aubree Roth, who is the farm to school coordinator for Montana. Jamie Taylor-she is our VISTA. We have Megan Randall from Park County, Bill Lombardi from Deer Lodge School District, Kara Dunston from Cayuse Prairie school and then me. I am a member of Team Nutrition. I am a farm school coach. But I also am presenting a variety a different form of garden from Fairview high school where I work. So, the overview goes through our agenda. Obviously, we're gonna have some welcomes and introductions in a moment. We will do some tours, then we'll take a short break. We'll do a couple more tours, we'll do some questions and discussions. And then we have some interesting things to wrap it up at the end.

AUBREE ROTH: I'm just going to give a quick intro to what Farm to School is. So, we're all on the same page here. Farm to School is an umbrella term or movement to connect children to their food to improve their health, support farmers, ranchers and food businesses and strengthen communities

through the three core elements that are shown here: procurement, education and school gardens. Farm to School programs generally work best when each of the three core elements are represented. There are many ways to implement Farm to School as we'll see today, Farm to School is not a program you sign up to do, but you build it to meet your school's interests and resources.

So, let's take a look at each of these core elements first procurement which includes buying and serving local foods in school, and after school meals and snacks. Schools are sourcing local foods across all five food groups from apples to beef and beyond. This includes food purchased from local farmers, ranchers and processors as well as food grown and raised at schools. Students at Missoula County Public School District raise livestock at the district farm and then learn about harvesting and processing in the district's licensed facility. Then that meat is sold to the community and served in school meals. Growing and raising food with students is a great way to engage them in the process and get them excited about unfamiliar foods. School gardens and farms vary in size, type and purpose. Gardens can be educational, they can be inground gardens, orchards, raised beds, greenhouses, or indoor gardens. Your garden could even be unconventional, like Gallatin Valley farm to schools Bob the greenhouse bus that provides mobile school garden education.

Let's look at the education component. This is definitely the broadest of the core elements. The education piece spans food, nutrition and agriculture-based education. There are so many connections with educational standards and different topics. Farm to School Education can take place anywhere. Here Gallatin Valley Farm to School provides in classroom lessons at a Bozeman Elementary School.

Getting kids engaged in cooking is another important piece of farm to school.

Farm to School is growing in Montana. In 2018-19 school year 54.8% of schools were implementing Farm to School in some way. And now that has grown to 57% in the past school year.

There are many benefits to Farm to School programs, as you'll see throughout this showcase, and I encourage you to check out the National Farm to School networks benefits back sheet whose link is on the bottom of the slide for more information about the impacts of these initiatives. I know that's a very quick overview of what Farm to School is, but don't worry, we will provide more resources and information later in this event and you'll really get a sense of how communities are implementing Farm to School in their way. I'm passing it back to you Faith.

FAITH OAKLAND: Thank you, Aubree. We are going to start with Lincoln school farm with Megan from Park County.

MEGAN RANDALL: So, thank you all for the opportunity to present. This is just like my favorite stuff to talk about. So, I'm really excited to have this opportunity. I'm Megan, I'm the current FoodCorps service member and gardener educator with farm to school of Park County.

I'm excited to take you on this tour. I'm going to end this little virtual tour by focusing on the Lincoln school farm. But I did want to start it by taking like a quick virtual walkthrough of all of our school gardens just to kind of put our program in context. But I'll focus the end of this presentation on the Lincoln school farm, which is our eight acre downtown growing space.

I'm going to give a quick overview of our organization and then we will start our tour.

Alright, farm to school of Park County. Just to put our organization in context. We're in park County. The population of the county is about 16,000 and about 8000 people live in Livingston, which is the county seat. Our roots as an organization are in the Livingston public schools. In 2008. The Livingston Farm to School program was founded by a group of parents, educators and community members who were interested in building a farm to school experience for their children. We reorganized in 2018 as farm to School of Park County, with an eye towards establishing a countywide presence. We have a team of four employees and 10 directors and various times some high school interns are also on our team. For the past 12 years farm to School of Park county has evolved into an independently funded school-based nonprofit with 501c three status. Funding for our organization is provided primarily by a combination of grants and community donations. Through a unique service agreement with Livingston public schools. Our programs have become embedded into the curriculum and daily School Food Services of Livingston schools. As part of our interagency agreement with the school district we agreed to maintain the school gardens and raise the funds to cover the costs of the gardens. Our vision is to place healthy local and sustainable food on the plates and in the minds of all Park county school children and their families. In order to do that we work in our schools to provide early exposure to good nutrition and a blueprint for healthy eating that can last a lifetime. We think of our work as fitting into four main pillars you can see here, teach, grow, eat and repeat. For this virtual tour, I'll be mainly focusing on the grilling and the teaching that we do. But I'll come back to the other pillars a little bit later. In the tour, you can go to the next slide.

I'm just gonna go kind of quickly through the school gardens. I could talk for 15 minutes about any one of these gardens. But I'll keep it quick just to give a little overview of our program and what it looks like for Livingston public school students. So, this is the Washington school garden it serves only the kindergarten students in Livingston. It's one of our more established gardens. It's been around for a while, although it's always a work in progress. This garden has 17 raised beds for a total of 450 square feet of raised bed growing space, as well as a big raspberry patch and a three Bay composting system. This year we will be installing a few native perennial shrubs and grasses to act as a windbreak and to provide more variety of plants in the garden. All of our gardens have an automatic watering system. And at this garden we have soaker hoses that we hooked up in the spring to water all summer. So, the maintenance of our gardens is the responsibility of farm to school Park county but we very much partner with facilities at all of the schools to make that happen. You can go to the next slide.

So, after Washington school garden our students are at Lyon's, so this serves first and second grade students. This garden has 10 raised beds for a total of 320 square feet of raised bed growing space. Both Washington and Lyons gardens have established fruit trees and apple trees that are a really productive and really a beautiful part of that garden. This year, you can kind of see on these pictures, there's a chain link fence, we're going to plant some flowering shrubs to kind of mask the chain link fence and make it a more inviting and beautiful space. Besides that, this garden is again really well established. It's been around for a while.

So, this is super exciting because the east side school garden is very new, very much a work in progress. So, this school year was actually the first year that you side students had a school garden. We're quickly moving ahead with establishing this space as a productive and educational garden. There are currently only five raised beds but this summer with help of volunteers from AmeriCorps and Triple C, we'll be installing 10 more raised beds, bringing us to a total of 15 raised beds or 480 square feet of raised bed growing space. And we're also going to be planting some fruit trees, strawberry plants and native grasses and some native edible shrubs like serviceberry, choke cherry, and buffalo berry. So here at Eastside, we're working on establishing the garden, but we're also working on a lot of really exciting curriculum development. For example, we're partnering with a local pollinator expert to develop pollinator corridors throughout the community. And we'll teach about the importance of pollinator diversity in our lessons. And we will also be able to connect our lessons to Indian Education for All standards by teaching about Montana native plants and the importance they have had historically and currently for Montana native people. So, like I said, the school garden is very much in development. But it's super exciting that the third through fifth grade students finally do have a school garden at their school.

The Sleeping Giant Middle School has a small, raised bed garden and an aquaponics Learning Lab in their greenhouse. These spaces were originally managed by Farm to School, and we funded their renovations. But now the aquaponic system is entirely managed by one of the middle school science teachers. And he also does most of the maintenance of the raised beds with some support of from farm to school. So, we view the middle school garden and greenhouse as a huge success because it's embedded into the science curriculum, and it's not managed by Farmer School. So that's what we're aiming for is that teacher's kind of take over these projects and use them in their curriculum, and that they really become embedded in what the kids are teaching. And we also kind of view this as a really successful space, because it's a great steppingstone for the middle school students who are on their way to Park High. So, they're introduced to aquaponics growing here, and if they're interested in that we have a much more robust aquaponic system at the high school that they can continue to work with and learn from. So Middle School is very much a steppingstone to what opportunities they have available as high school students, we can go to the next slide.

So, this one is those pictures are sorry about the quality on a couple of pictures, but this is kind of the last school garden on this tour. And this is the plant growth Center at Park High. So, this space is really important to farm to school for a couple of reasons. One reason is because this is where we start all of our seeds for the Lincoln school farm and all the school gardens. So having our own nursery space gives us control over the varieties that we grow. And it definitely saves us money by not having to buy seedlings from a nursery. And in 2020, we grew all of our own starts here, as well as over 200 pounds of tomatoes and cucumbers in the summer. And this is also really important because this is where we had decided that we have to partner with high school students. This year because of COVID-19. We did a little bit less partnering with high schoolers just because their time was so limited because of some of the COVID restrictions. But for the 2021 growing season, we are already partnering with the horticulture class and bringing them into the greenhouse. That's a

picture of high schoolers harvesting greens that were used at the salad bar in the high school. And we'll have some high school interns this summer. So very much coming back to our robust high school programming. And that kind of again, just sort of wraps up the brief school garden tour just to put us in context. And I'll spend the rest of this presentation talking specifically about the Lincoln school farm.

But Lincoln school farm is an eighth acre highly visible downtown growing space. It's our first extension outside of school grounds. So that's pretty exciting for us. And I'm going to talk about what it looks like what we do here, and especially how the Lincoln school farm ties into each of our four pillars of work. So again, we've got teach, grow, eat and repeat. And I'm also going to talk a little bit about funding and sustainability of this space.

So, Lincoln school farm as a teaching site is really awesome. We partner with an organization called links for learning. And last summer we taught 35 lessons at the Lincoln school farm to link student's links for learning as an after school and summer enrichment program. We partner with links to provide hands on gardening classes for the students enrolled in their program. The partnerships been a wonderful way to provide more farmable education to Livingston public school students. I also really value this partnership because it's pushed me to think about the Lincoln school farm not just as a productive space for growing vegetables, but also as a space that needs to be engaging for our students.

My kind of professional background is in production farming. And so, it's been really fun kind of challenging to get outside of that and think about how does the space not just be a space where we can grow a lot of vegetables, but also somewhere that's really beautiful, really fun, really engaging for students. And having the length things kids there has really kind of helped us push in that direction to make it really educational and engaging.

So this is all about what we grow and how we grow at the Lincoln school farm.

You can see on the right side is a picture of what the farm looked like during the summer of 2019. And on the left side is what it looked like last year. So it's pretty amazing transformation. It was pretty exciting to be part of that and really taking the space and making it something really amazing.

During the 2020 growing season, we grew over 2000 pounds of produce at the Lincoln school farm. So we made sure to pick crops that would do well in our climate, and that also matched the harvest of the month items. Last year, the main crops that we grew here were carrots, beets, kale, summer squash, winter squash, and garlic. And this year, with input from food services and what they want and what worked well, we're tweaking that plan a little bit, we'll grow a little bit less kale and a little bit less beets. Turns out there's a limit to especially the amount of beets, we can really use. And instead we'll be doing well still grow those, but we'll be including some potatoes and salad greens here at the farm.

Those are the main crops that we grow. But it is like a really interesting engaging educational space, we have edible flowers at the front and the end of every single row of vegetables. The edge of the farm is planted in flowers and grape vines. So there's a lot more going on than just those crops. But those are the main crops that were growing here.

Just a little bit more about how we're growing at the farm. In addition to the 20 rows of annual vegetables, we also have a small permaculture garden that includes several fruit trees, shrubs, and perennial herbs. It was important to us to include the perennial garden because we want to teach our students about many different types of growing. So of course, not just annual vegetables, but also like those perennial fruit trees and what permaculture looks like. That's been really fun to experiment with that at the farm. And we also have a small, unheated greenhouse at the farm where we grow hot crops, like tomatoes, peppers, and eggplants. You can see in that picture, we had tomatoes at ground down the center of the greenhouse, and then basil and peppers and pots along the edge. So that's our little, tiny green house. And we've just got a lot of exciting plans for the future of the Lincoln school farm. As we continue to maintain it as a productive growing space, we'll also be developing it into a more useful educational space. This year, we'll be installing some native grasses and flowers. And we're just doing that to kind of enhance the appearance and just kind of expand what that farm is doing what it's what it's offering to the community.

So you're probably wondering where the 2000 pounds of produce that we grew here the farm went? And the answer is that almost all of it went directly to the kitchen at Park High to be used in school lunches. The Food Services staff use it as much as they could fresh and anything that they weren't able to use fresh, we processed and froze for them to use throughout the school year. That was definitely a lot of work for farm to school to do all that processing. But it was definitely worth it. Especially because we were able to process the vegetables in exactly the way that the food services staff wanted it. So we have you know, we have all this kale. How do you want us to what kind of bag how do we process it. So just doing it in the way that was going to make it easiest and simplest for them to use our produce is really important. We've been really happy with how it's been going. It's wonderful to see our produce in the school lunches throughout the year. But of course, it hasn't been without some challenges, especially at the beginning of this year, because of the restrictions for COVID. They weren't doing as much scratch cooking; it was harder to get our vegetables in the school food. But we've seen that really happen more and more this year. And so there's still some frozen stuff in the in the freezer that we're trying hoping we can use before the end of the school year. But that's been a pretty amazing thing to see our vegetables in those school food this year. I can really talk about that kind of going from the growing of the farm to eating in the school a lot, but I'll wait and maybe answer some questions. If we have any. We can go to the next slide.

So the Lincoln school farm as a site for repeating our work. What does it mean when we say repeat? For us repeating our work is everything that has to do with community engagement and communicating our work to the wider public. So that means hosting volunteer events and inviting parents of our students to see the farm and many other outreach opportunities. For example, this year, we will expand our outreach by offering family gardening workshops at the farm, the highly visible nature of the farm helps it fit within our repeat pillar, we hope that anyone walking by the farmer is inspired by what they see to grow their own food at home and to repeat our success in their own growing spaces. So just by having this at the location that it is, it's really accessible, it's a block off Main Street, just by having it there. It's kind of inherently communicating our work to the community. And that's really important to us.

I wanted to wrap up this discussion of the Lincoln school farm by talking about the sustainability and funding of this space. Obviously, this eight-acre growing space requires a lot of work from farm to school Park County, it especially took a lot of upfront labor and fundraising, when we first kind of acquired the space to really bring it into production. But now that it is up and running, and just functioning and beautiful, we have a goal of it becoming self-funding or nearly self-funding maybe. I wanted to just talk about how we might be able to make that happen. There's a few things that we're already doing to kind of make the Lincoln school farm, a kind of fund generator for Farm to School of Park County. So we currently sell the produce that we grow to the school system, we sell it at a much-reduced rate. Whatever they would be paying from the distributor that they might be buying produce from we sell at that rate. So we pretty much just match whatever the Cisco prices. So that's definitely a below market rate for, you know, organic produce. But that's how we have found that it works for us to be making a little bit of money from the vegetables, but also still be making it really accessible to food services. So we're selling our produce to the school system. We also sell like a little bit of our vegetables to a couple of restaurants and also the hospital and that I extend. And when we're selling to any entity, that's not the school system we sell at a market rate. But that that's really a small amount of what we grow with only if we have something that the school system just really can't use, or we have too much of it for them. Another way that those school though, like its cool farm is generating a little bit of funds for us is that Links for Learning who we partner with to teach here pays for our programming. So the farm is operating as a space for production and then also as a teaching space. And we're kind of able to cover some costs that way, by working with Links for Learning. We also have negotiated a really cheap lease for this little property. We lease it from the Lincoln school building, which is the I don't think it's in any of the pictures but the building that's on site, we lease from them, and we pay them \$1 a year. So that was really important in thinking about how sustainable this place would be in the future. We couldn't really take on the burden of fundraising to pay a lease every year. So negotiating that really generous and cheap lease was important in making this a sustainable project for us. And we definitely are always trying to brainstorm more ideas about how to make this self-funding for farm to School of Park County, for example. We're looking into doing farm dinners here. So those would be ticketed events that would kind of operate as fundraising events for us. But we'd be using this space in that way to hopefully, invite donors and you know, with that ticketed event, raising funds that way, but again, we're not there's a goal of being self-funding. We're not there yet. But we are always brainstorming ideas.

FAITH OAKLAND: So I think at this time, we will switch over to deer Lodge, the FFA garden with Bill Lombardi.

BILL LOMBARDI: Good morning, everyone. And thanks for inviting me to be part of this program today. I teach agriculture education at Powell County High School. I have been here my entire career of about 35 years. And we have a bunch of different angles to food and growing food and eating food. I think one of the things couple things would be interesting to note, I have all my students with me right here, sitting in the classrooms around the big screen. And the other thing is we do not have

any food service at our school at all. There is no lunch, no anything. And so in the last few years, we have started a breakfast program and we've started a kind of a food bank for families. We have started snacks and things like that as well as our family and consumer science classes utilize our food. So it's a little bit different and how we've had to do it, we really don't have, we don't have a cafeteria or anything like that. That probably left our school 50 years ago. And so we've never had that. You know, when I talk about school farm, I use that term a bit loosely, we literally have a farm that is run and managed by the students in the school. And I also have a farm at my house. And we also have a farm per se here at the school. So I kind of mix it all together to make it all part of our education.

We do try to grow what grows well here and the plants in the brassica family, the broccolis and cauliflower grow very well, that seems to be somewhat of our limit. We are high elevation. And it's cold here. So it's tough to grow things. We can double crop broccoli, though. So that's pretty incredible. I think.

Potatoes are a big one that they grow. Well, here, there is a little seed production in this valley. And it's something that takes minimal maintenance, I guess they can usually outrun the weeds. And so we have grown potatoes at different locations. And use those in our classes as well as around our school. Last year, of course, for everybody was a little bit different. So we didn't end up using some of the food we produced in the traditional manner because the kids weren't at school. But we have put those in food service, whether that's our breakfast program, or it's our food classes, things like that, or to needy families.

I tried to just include some pictures of just some of the different gardens. A lot of times we grow things that are for fun, or beauty or education. So it isn't always just food production.

If someone wants to ask us a question, as we're going, please do. That's kind of kind of how I was thinking you might so feel free to interrupt if you want.

Here's some students digging potatoes and washing them up. And then we're getting some bags ready to distribute out. So our kids get involved where they can. The challenge I think for me and this community is that the summer really ends we will get our first frost like the first week of school. So we usually have to start the school year by getting in the bus, we have our own bus, and just going very quickly out into the field.

And there's distance to these, our school farm is about five miles away, my farm is about three miles away.

So soil building is a big deal. And I'm learning a lot and getting schooled and educated a little bit in the school of hard knocks, a very rocky gravelly ground of basically eluvial rocks, and so there's not much soil at all. But fortunately, I have a small dairy that I run so we produce a tremendous amount of manure. And one year we were taking the manure right behind the cows and dumping it on the garden. And I got a little carried away with the organic matter and caused myself some pretty big headaches.

What happened is we introduced cabbage fly maggots and they are especially hard on the on the brassicas which is what we can grow very well here. And next thing we know we pretty much wiped ourselves out of the brassica production. So we changed it up a little bit how we're doing it. And we

now we age this in some different piles and to let that organic matter break down and it works a little better.

I'll tell you about this year's problem though it's not in a slide because it's just developed with that manure. I had a lot of nitrogen but not a lot of carbon. So I was gonna introduce carbon to those compost piles in the form of old hay and a gentleman offered me grass hay to just for free just to pile on and mix in. So I did that, and I had about 80 or 100 bales that I used and when I literally got to about the last couple bales, I'm cutting the strings on him and mixing them into the compost. I realized that as I open a bale it is chock full of spotted knapweed. And this was supposed to be wild grass hay. And I thought, oh no, were there spotted knapweed there's somebody with a sprayer. So I quickly called the guy and I said, was this land sprayed? He says, Oh, yeah, we sprayed it with Torridon. And I said, Oh, no, this is a problem. And some of that compost, you can see in the slide actually made its way into our greenhouse. And you'll see some of our bad culture and made its way in there. And this spring, we can definitely see the damage from that toward on. So that toward on has, you know, it's several years removed, actually, but it's still there. So very powerful, we will have to empty out some of these beds and sprinkle that out on the land, it'll be just fine, where you're trying to grow a lawn or something. But it won't be it won't be usable at all in a garden situation. So that that was this year's mistake. So we learned to age it. But the source of those inputs is so incredibly important. For the cows, it's pretty easy. Because I own the cows, I control the cows and I know what they're eating and, and where the manure is. Are there any questions as we're going? So I kind of just hitting some different areas. And one area that's kind of unique is making spices. We found that the students like to grow hot peppers. And we had some student's years ago that said, you know, they just wanted to try it. So we grew some extremely hot peppers. And we grow some onions and some garlic. And I have had the great fortune to travel some different parts of the world, working in agriculture and working with children working with poverty. And so I gained a little experience on making some traditional African spices. And so that's what we do, and we will blend those. And then usually what we do to eat the spice is we'll do bake potatoes, and then the kids can put as much spice as they would like on the baked potato and try it out. Some of them are very hot. So the kids put just a little bit on.

You can see in that picture, those are, those might be some ghost peppers, or, or some there there's also a cantaloupe in the background I see there that we grew.

So here we are actually roasting the spices. So after they've been mixed and blended, we have a food dehydrator that we just dehydrate our like peppers and, and garlic and everything so that it blends up a little better so that you don't end up with a mush. And then we roast those two, to basically preserve those and stabilize that spice and then it'll store and then that's pictures of the kids sampling that that usually occurs in the fall of the year. As schedules change which we have a new schedule this year.

We'll have to adjust what we do in certain times of the year. We won't have the horticulture in the fall anymore.

It's more of the students sampling. This is the following year inside of our school greenhouse. You can see the bags of salt soil in the background. We use recycled feed bags from our school farm, we end up with a lot of them. And it's a very cheap, quick, easy way to move and transport soil. And if you want it, you can reuse it again. Or if you're kind of done with it, you can just throw them away at that point.

So this is kind of a unique thing. geraniums have long been a staple of the horticulture industry and a staple crop. We do grow bedding plants as part of our fundraising to fund this whole thing.

Just looking at the chat on there, if there was a question, did we have too much phosphorus in the soil from our composting that that hasn't really been the problem yet. These other problems were so big and glaring, with the Torridon that got mixed in and the too much organic matter in the maggots in there that that we really, really couldn't assess whether the plants were growing very well at all.

Yeah, another question in their best practices engaged families and households in the school gardens. We do have some tours. And I think maybe I have some slides of that. But we bring tours, both to the greenhouse and to our school farm and actually to my farm, I have a harvest party in the fall that's open to the community.

This geranium crop is a little bit interesting. So what we do is a seed geranium. I avoided growing seed geraniums most of my career till about five years ago. And the simple reason that I avoided it is that it's a long season crop to get a good seed geranium, you probably should start in December. And we're shut down. We shut down our greenhouse November, December in January, and we restarted in February, go through us sometime in November. Well, so we could never get those geraniums big enough. So we use those zonal geraniums. So we would take cuttings, which is a good thing to teach kids. So a few years ago, we grew seed geraniums, and they were great. They germinated well, and then, but the sale came, and nobody would buy them. So we took a plant that we were trying to sell for \$1 even. And they just wouldn't sell, and we took all those plants and grew them out in the field. So we grew them outside for the summer. We dug them in the fall, harvested them potted them, carried them through the winter, and we took that same plant we couldn't sell added a little time and value. And now they fly out the door at 10 bucks apiece. So it was it was kind of a value-added thing. And it turned into a pretty huge fundraiser for us. I never dreamed we never intended for that to happen. You can see some of our bad culture, we do a lot of bad culture, cucumbers, a cucumber will not grow outside in our Valley. It's just a little too cold. But we can grow them like crazy inside. I think I might have missed some of those questions as they're coming up in the chat. There's just some of our geraniums. It allows us to get different colors. So we'll stick with a color for one or two years. And we'll switch colors and just keep it keep it going. We do try and turn a profit on most of everything we do we kind of have to. We found ourselves through the school farm. Okay, let's see. So this is this is just a picture of our bedding plants and our bedding plant sale might be a good time to introduce what happened last year. With COVID. We lost all our students like everyone else did at about March. And then so they were pretty well done for the rest of the year. We could have zoom classes, but if we there was the zoom class, then that meant I wasn't in the greenhouse working or at the school farm working. So I had volunteers and we've coined it a little bit the gray-haired gardening crew. And so some of these people that are older and retired, they didn't

like sitting at home anyways. And so they started coming in, I gave them keys and they just loved it. And we ended up actually having the best sale of my entire career. I was unfortunately stuck in front of a computer screen all spring. It's been way better this year we have the students back. But those volunteers have really, really been engaged in our program and they help they help at all levels too. They help it at all the different farms that we have.

We do have fruit trees. At our school farm we have apples that we planted many years ago. It is real hit and miss. If the Frost's and the blossoms are time just right in the spring, we will get an apple crop. If it don't work out, then we won't get an apple crop. And then in the fall of the year, we have a little bit of trouble with the migrating birds, blackbirds, starlings come in. And once they found those trees in our Valley, they'll wipe out the entire crop in about one day. So if we see those migrating birds come through, then we will run out there and grab all the apples we'll just take all our students and harvest them all it all there's a cry, there's questionnaire on peaches, so we can't even come close to growing a peach in our Valley outside, so we grow all our peaches indoors and what variety we have we have whatever Costco was selling that year that we planted down over a clue what they are. I think we'll have a picture of those. This particular picture of the apples was a real good year. The birds never came, and the frost stayed away in the fall. So the apples actually got very ripe, and very, very good eating apples. next picture.

So some of our students harvesting a big area that we do with the apples is we make cider, and we experimented this year with herb flavored ciders so we would have a peppermint cider and a sage cider, and we just added the herbs right into our shredder our grinder and then produced that cider that would have some flavor to it and for the most part we just drink that in class, but we'll freeze it sometimes. We drink it this time of year. So here's the peach trees, there are nectarine trees too and so they will usually flower and bloom in February and we'll pollinate them we just have the opportunity to start talking about fruit and trees indoors when winter is still in full progress this year, we tried grafting our trees. The challenge is when we bring them out of dormancy, we go from you know February we might go from 10 degrees or zero or even below zero to 70 degrees Fahrenheit in a matter of just a few days so those trees go immediately into full bloom and so this year our graphs were just a little slow on making the graphs and the buds and leaves that already set so our graphs didn't take this year. We just have them in barrels you can see those barrels and we tried the little pockets on the side to grow flowers and they're real beautiful it's a little harder than it looks and what we found is the trees really like to be moved outside so at the end of the school year we just get a hand dolly we move all the trees outside and they grow outside in the summer right at school and then in the fall we bring the trees back in.

So not everything we do is plant related we do have a very large school farm with as many as 200 animals on it so a couple things that we are using specifically in our classes in our school to farm program our breakfast program is our pork and times our eggs if we have enough eggs.

The pork is when we use it in our school system. To stay in compliance with regulations we do not cut that meat that is sent from our farm to a licensed processor. We have not yet used the school the Missoula school. We will probably send some livestock to the Missoula program sometime this spring so that could be something we do in the future and then we also teach meat cutting here and so that

picture is some of the meat cutting that I teach the students. We cure our own hams our own bacons and everything like that, but I just wanted to clarify that if you're using a meat product it's got to go through a federally inspected program.

Cucumbers and some plants who were just growing for fun, but cucumbers have been kind of a big crop and we sell those, and we eat them in class, so we do a little bit of everything with those.

We do get into herbs and we're trying to get more and more into herbs that's an example of a little herb box that we built and so we'll sell those, and we use them in our cooking. Our next goal is to increase our awareness of pollinators. I've never tried it I've actually never seen it done but I want to bring the bees inside into or near our greenhouse with some plexiglass type windows and screens to where the students can literally walk right up to the bees and see them. In the summer we would probably just turn the bees loose in the greenhouse and the outside so that's our next venture. Just some random pictures of different food that we produce. I always try to grow something new.

There's artichokes up in the upper left-hand corner. New this year is loofah that we're growing, and I think that's it.

GINGER BUCHANAN: We're going to turn it over to Kara from Cayuse Prairie.

KARA DUNSTON: Hi everyone I'm Kara Dunstan, I'm the horticulture director here at Cayuse Prairie school in Kalispell and if you go to the next slide, I'll talk to you a little bit about our program. So I wrote up this story and I wanted to share it with everyone because I think it's important. Debbie Kauffman is a local from this area and she was my predecessor and about 10 years ago she was just talking about her passion with one of our substitutes about how she thought it would be so beneficial for us to have a greenhouse here and for the kids to be able to learn more about gardening and be able to work with soil and that sort of thing and he got excited and they both just started diving in and found sponsors in our community and other people that wanted to get involved. Torrent tech was a huge help and donated a large sum to get things started and then from there Debbie with the help of our sped teacher at the time wrote requests for grants and continued to fundraise and that same substitute was also handy in construction and had a lot of contacts in the construction world, so he took on the task of getting time and labor donated. Concrete was donated by Tony Young Bird Heating, time and labor donated from the Dickey family so there's just a lot of community involvement to get us started and then he did most of the construction on our greenhouse as well as the shed that he installed next to the greenhouse to store stuff. I wanted to share that because I'm coming from a much smaller program than most of the other presenters are, just one school where early kindergarten through eighth grade and it really just took the time and passion of a couple people really coming together to say hey this will be important for our school and community and they made it happen. So, I think some of you joining us that are coming from smaller schools that are interested in starting your own program our story might be interesting to you.

Our program consists of an outdoor garden area, we have eight raised beds and an in-ground garden area as well and they just kind of made that happen out of what used to be an old parking area. There's actually a gravel pile in one quarter at a time and over time we brought in Creston topsoil and kind of made it work and fenced it in. We also have indoor hydroponics which we use in the winter months and our greenhouse is a huge bonus in implementing our program as well as how we do most of our fundraising. We implement the Montana State University's Harvest of the Month program through old farm garden and greenhouse and a large portion of the work in our greenhouse and garden are completed by our middle school 5th through 8th grade horticulture class, including preparing all the taste tests doing all the cooking. They distribute the taste test. We used to do it at lunch, but with COVID it's been a little bit trickier on how to get it to all the students but we're able to get taste tests out to all 267 kids every month which is pretty fun for all of them. Another bonus program we have is our garden detectives that I teach and that program consists of small groups that rotate per grade early kindergarten through fourth and I'm able to do small lessons half an hour long about gardening importance of good soil conservation and other related topics. I'm going to talk to you about some of our fundraisers because our program aside from these utilities the school covers is 100 self-funded and we have several different fundraisers that we do throughout the year. Salsa canning is something I just started two years ago or in our second year with it. We do it in the fall and our horticulture class we go out we harvest all the peppers, tomatoes, onions from the garden we bring it in, they process it all chop everything and then they learn how to can it which is a huge part of gardening is how to preserve your produce so I think that's been an interesting thing to bring to the students and we made 407 off of our salsa this year. I think we canned about 65 cans which has been pretty cool. Last year we did 276 so huge adjustment this year because we were able to can a lot more and it's amazing how excited the kids in the community get. I mean it just flies off the shelves and people are coming in for more and I only have six jars left that I'm saving for our spring plant sale but it's a really fun way to get the kids involved in the full circle of harvest and saving it and selling it.

Another big fundraiser we do in the spring in our greenhouse is the mother's day baskets. We do some geraniums from seed and then we also order plugs and geraniums from high country growers in Helena and that's mostly what we use for this. We usually make about a thousand dollars from our hanging baskets every year. Last year we did a thousand hundred usually try and get 65 mother's day baskets done and we sell them for 25 bucks a piece and it's a really popular tradition here; everybody looks forward to ordering their mother's day baskets. The horticulture class is responsible for planting all of those.

Our spring plant sale is our main fundraiser. We do get some plugs in from high country growers for this but mostly we start from seed do a large variety-- a lot of tomatoes, geraniums, other flowers, bedding plants and then several like summer squash, pumpkins, cucumbers, a pretty large variety of just general good garden plants that people around you are interested in so and we usually make about three thousand dollars a year from our plant sale and I kind of averaged it out. It's like one of

my mini jobs hats of a small school. Whatever's out after costs we generally make about three thousand five hundred dollars a year after we buy pots and soil seeds plugs all that sort of thing. I just wanted to focus a little bit on how we implement the program into what the kids are learning. The outside of our greenhouse and some pictures of some of our students starting seeds in the greenhouse and it is mostly managed by the fifth to eighth grade horticulture class; they do a tremendous amount of work out there for us.

We also have our hydroponics do cucumbers and tomatoes in there mostly and it's just kind of parked in the school hallway, so all the kids get to kind of watch them grow which is really fun. There's a picture there of a couple of our preschoolers or early kindergartners sampling some tomatoes and the kids just get excited. It's a great way to have something growing in the school during the winter months I tried eggplant this year but didn't go very well.

These are just some pictures from our school garden, so every student little mustang through eighth grade has curriculum that matches like fifth grade has seeds for instance and they will harvest say like sunflower seeds and this year they use them in diorama projects. So each grade has something that they focus on. Fourth grade is carrots, so they'll come out and harvest the carrots and I kind of coordinate how that all happens and then they find a way to use it whether they're just going to sample it in class or if they come up with a class project to use it. I kind of support each homeroom teacher and how they're going to implement their crop into their curriculum and that's just some pictures of the kids out there enjoying the garden. A big thing we do every year is put the garden to bed day. It's a huge hit around here everybody gets to wear their pajamas to school, we make apple cider outside. Last year everybody got to hang out and drink apple cider together. This year had to look a little different where we just took it to each individual classroom but those are just some pictures of our harvest and pulling out some plants and making cider and it's just a really fun day for the students where everybody gets to come out to the garden that day and get involved and all of our students get to be involved in planting the garden as well in the spring.

I do the garden detectives this is a picture of like they came out did soil paintings with me we learned all about uh the importance of good soil out here in Creston we really love our soil and we talked all about how important it is to conserve. They learn about winter birds and scavenger hunts in the garden and it's just a really great way for some of the younger students to be able to come out and get involved and get excited for when they're old enough to take the horticulture class.

FAITH OAKLAND: As you know I work for Team Nutrition as a farm to school coach but I am also an English teacher for Fairview high school which puts me in a little different category than everybody else that you've heard from today. I don't do this for a full-time job but I'm super passionate about teaching kids where their food comes from and like trying to get that next generation inspired and excited to grow their own food.

When COVID shut us down in person our in-person learning last year we weren't able to plant our school garden we were not allowed on school grounds and it was just I mean so everything came to a screeching halt and what was sad about that is that our program was so new so we didn't have a super established program. When our program got shut down and then we returned to face-to-face

learning in August but we were struggling with the idea of having to leave at any moment we weren't sure how long we were going to be face to face so we did not get that momentum to get our farm to school students to start any new planting projects. So in order to mitigate the lack of gardening happening in our school I decided to explore indoor gardens. After researching I landed on the idea of a tower garden by Juice Plus because it is self-watering and it has a light system this was an important aspect considering the possibility of our in-person classes being cancelled at any moment so this hydroponic system grows lettuce really well but I wanted to try something different. Why not so I planted green beans, peas, and tomatoes and the seeds are placed in the rock wool which you can see in the pictures then covered with vermiculite and kept in a growing tray filled with a quarter inch of water and placed in direct sunlight. Within a few days the sprouts appear and soon after the seedlings are able to be transplanted into the tower garden.

So the base of the tower garden holds 20 gallons of water and the kit comes with liquid nutrients and ph balancers. The nutrients are pumped to the top of the tower then drip over the roots of the plants returning to the base to be used again. I purchased the extension kit which allows me to plant 28 different plants in four square feet I also purchased the optional tomato cage and growing light kit. We have long dark winters as most of you are aware and a side benefit of the tower is the artificial sunlight from the grow lights but that's a lesson for another day. This tower is actually in my classroom. This is my tower and I treasure. It is important to get students involved so pictured here is senior Paul Hardy. Paul is checking the ph of the water and making any necessary adjustments. Paul is the son of Jim and Mary Hardy a local farming family so Paul was not a fan of this type of growing system because in his opinion it is not natural but Paul has worked on the tower garden since January adjusting the flow rate and amount of artificial sunlight all to help the plants grow to their full potential which I truly appreciate from him. I think he likes it more than he lets on to be truthful. This is a learning process for all of us but with practice we are getting better results. My plants were lacking nitrogen and because Paul is a farmer he immediately noticed that and emptied out our water tank and refilled it and adjusted all of the nutrients necessary and the plants bounced back which I appreciated. He has been so instrumental in maintaining the health of our tower because of his knowledge. Within a few weeks the plants began to flower and then the produce began to appear. I was very excited to see these green beans on the towers. In this picture we have the green beans matured first and the students were interested in trying them at least once it may have taken a little convincing on my part. The young man standing in the middle is my oldest grandchild and I think he was a big part in getting the rest of the kids to try it. So to get anywhere in the building you have to pass my classroom and so on every day I'm asked about my plants. It's sparked conversations about growing our own food students' parents and teachers are all very interested in the tower garden, several adults have mentioned wanting to purchase one for their own use at home. I've had teachers ask about how did they get a tower so hopefully we get we increase that indoor ability to grow food in our in our classrooms

These are the roots and I just threw this picture in because it just tickled me to be able to see the actual roots of the plants. Since I get a lot of questions about how the system works I explain what I know which is not as much as the other people that have presented to you but I get to show the root

system to everybody that's interested. Anybody that comes into my classroom that's the first thing we talk about is my grow tower. Students do not need permission to pick the vegetables in fact I encourage visitors to stop in and explore what is available right now we have green beans and peas. Soon we should have some cherry tomatoes I have a very open classroom policy so you'll see people coming in and out and they'll just pick a pea plant and move on. I know the tower grows amazing lettuce and we are learning about other vegetables and their nutritional needs. In order to continue learning the full extent of the tower garden I want to grow strawberries next year after that I want to purchase multiple towers and place them throughout the school however all of this costs money so we made a plan. After participating in the 2018 farm to school summit the fcs teacher Angie Hopes the science teacher Angela Pierce and the ag teacher Jim Hardy and I created a school plan. Part of the plan included raised bed gardens in-ground gardens and a fruit tree orchard all of this cost money and the projects would not be school-funded. There was just no money for that in order to afford our dreams Jim hardy used his own money and equipment to plant an acre of sweet corn; that is a lot of sweet corn. Angie Hopes and Jim hardy had their students pick and process the corn for sale and I contacted every grocery store and school within a 30 mile radius. We sold our corn for five dollars a baker's dozen and it went quickly. We also shucked corn and sold frozen quart bags for three dollars. The farm to school students took turns selling ears of corn out of a pickup bed at the local park as well we made enough money to fund our program through the end of this year. We purchased seed equipment fresh raised bed so sold four fruit trees and a heavy duty compost tumbler.

So you can see some of our kids this is a couple years ago we weren't able to do this last year we will continue to sell corn however we are adding a pumpkin patch to our sales plan this year with the hopes of having a full-blown fall harvest festival. The proceeds from our project will purchase more tower gardens to be used throughout the entire K-12 building. Eventually we want to build a winter greenhouse that can be utilized most of the school year as our garden plans grow so does the interest level our dream is to encourage students to plant their own gardens learn to process the produce. Bringing gardens into schools is helping students learn to grow what they eat and eat what you grow.

JAMIE TAYLOR: I'll talk about a few of the resources that are available to you guys and then some of the upcoming events. There's an extensive list of school garden resources under the resources tab on our website if you're struggling to get started or need lessons to teach in the garden this is a great place to start.

We also have some newly updated composting resources if that's something you're interested in starting. Composting can be a great way to turn food waste into a healthy garden additive as well as an excellent educational tool. On the school garden resources page find tips on how to get started and fun activities to do with your students at the compost bins.

Like Aubree mentioned we have this garden to cafeteria tool kit which is found on the resources page as well and it helps school district food services bring their school garden produce to the cafeteria while following those safety protocols. Montana Harvest of the month is a program that

brings together the Farm to School core elements in an easy-to-use framework. The goals of Harvest of the Month are to support healthy MT children and adults and to support MT farmers, ranchers, processors, and food businesses. It is open to K-12 schools and afterschool programs, Early Care and Education, Healthcare, grocery stores and food pantries.

It is free to register and you can do so at anytime. Participating sites get access to posters, handouts, guides, and many other resources.

One great Harvest of the Month resource are the farm to plate videos created for each food. Unlike other Harvest of the Month resources, these are publicly available on our Harvest of the Month YouTube playlist. These are great for in-classroom lessons, remote learning, and promoting Harvest of the Month and local foods to families and communities.

The Montana Farm to School Leadership Team works through partnerships across the state to build farm to school initiatives that help kids eat healthy, connect kids with agriculture and nutrition through education, support Montana farmers and food producers, foster economic vitality, and strengthen communities. This team is formed of agencies and organizations with statewide focus and influence that are key to the success of farm to school in Montana. You are welcome to participate in one of the 5 working groups, just contact Aubree.

We are hosting one other Montana Farm to School Showcase: Grant Writing for Farm to School led by Ginger Buchanan on April 23rd (next Friday). Be sure to register for this webinar to learn all about how to write winning grants.

We also have several webinars and showcases archived on our website under Training and Events. We hope you join us for the next statewide Montana Farm to School Summit on August 11-12 in Helena. Registration and scholarship applications are now open. Anyone in need of travel or lodging assistance is encouraged to apply for a scholarship by May 6th. The \$65 Early Bird Registration ends May 31st. You can receive refunds on registration, so be sure to apply early.

October is National Farm to School Month and is a perfect time to celebrate or launch your farm to school program. It's never too early to start planning your Montana Crunch Time event which is a fun way to celebrate National Farm to School Month!

We hope you will join us on October 21 by crunching on locally or regionally grown apples. Register your crunch on October 31 to help Montana win the Mountain Plains Regional Crunch Off.

For those looking for extra help getting your farm to school initiatives started or with expanding your current efforts, we have two farm to school coaches—one being Faith Oakland who, as you've learned, is an expert in school gardens, education, and administration. Ginger Buchanan is our second coach whose areas of expertise include school food service and gardens. If you're interested in their help let Aubree or I know, or contact the coaches directly.

Finally, we would love for you to share your farm to school stories. You can share photos, lessons, stories, and recipes using the Share Your Story form on the MT Farm to School and MT Harvest of the Month websites or you can email me at anytime! We would love to feature your story in an upcoming training or on the web! Use social media to get the word out and be sure to use #MTHarvestoftheMonth or #MTFarmtoSchool on your posts.

I will now let Whitney Pratt discuss an exciting project she is working on with Farm Hands-Nourish the Flathead.

WHITNEY PRATT: Hi everyone so my name is Whitney Pratt I'm the education coordinator with farmhands nourish the flathead. We're up here in whitefish and we're really interested in creating a school garden seed saving collective. A little bit of the background on that is we host an annual event called free the seeds which is a totally free event where we give out thousands of seed packets that are mostly from seeds saved in our region but come from some other seed producers as well and then we host typically close to 25 workshops. During that event this year we couldn't do that we had a virtual conference and if anyone's interested those workshops are online you can find them on our YouTube channel or from our website, but we are really interested in school gardens as a way to save seed in the state and so we want to form a collective of people who are like my garden can save one seed. So for instance in Columbia falls we want to save sweet pepper and tomato seed and then let's say six other gardens want to participate each of those gardens would save one kind of seed and then we would share packets across that collective. So in order to get people excited about this we have a lot of bundles of seeds that we're really happy to send to any school garden in the state so Aubree just put the link in the chat and so please feel free to fill out that Google form and then I will ship you a bundle of seeds. They're all open pollinated seeds good for saving it's usually herbs flowers, greens, some beans and some squash is typically what's in those bundles and with the information from that google survey we're hoping to get a group of gardens together so we can save our own seeds.

ATTENDEE: How did you get the board and communities on board with your school garden efforts?

FAITH OAKLAND: I know in Fairview our community is a farming community so they were extremely supportive of our school garden efforts even though we're very much in the beginning stages of that and I feel like most of our school board members are also farmers so they were not opposed to a school garden especially when we told them we were not going to ask them for any money.

MEGAN RANDALL: I'll just jump in that getting the board on board uh was kind of done before my time so I don't really have too much to speak on there but in terms of just getting community involvement we have just like been communicating what we're doing relentlessly just like anything we do we figure out how to tell our community that we did it from like big things to small things, just telling people that we're doing stuff puts us on their radar and it's harder for them to not support what we're doing if they know that that we are doing something and making progress.

KARA DUNSTON: I have just one thing to add again the board got involved before I started with my position but from what I've seen keeping the community involved comes a lot from keeping the kids involved and excited, so if I take all of the students seed and each grade has started their own plot of tomato seeds they go home say 'Mom we've got to go to the plant sale and look at the tomato plants.' It just kind of dominoes if you get the kids excited they get their families excited and it just kind of falls into place from what I've done and seen.