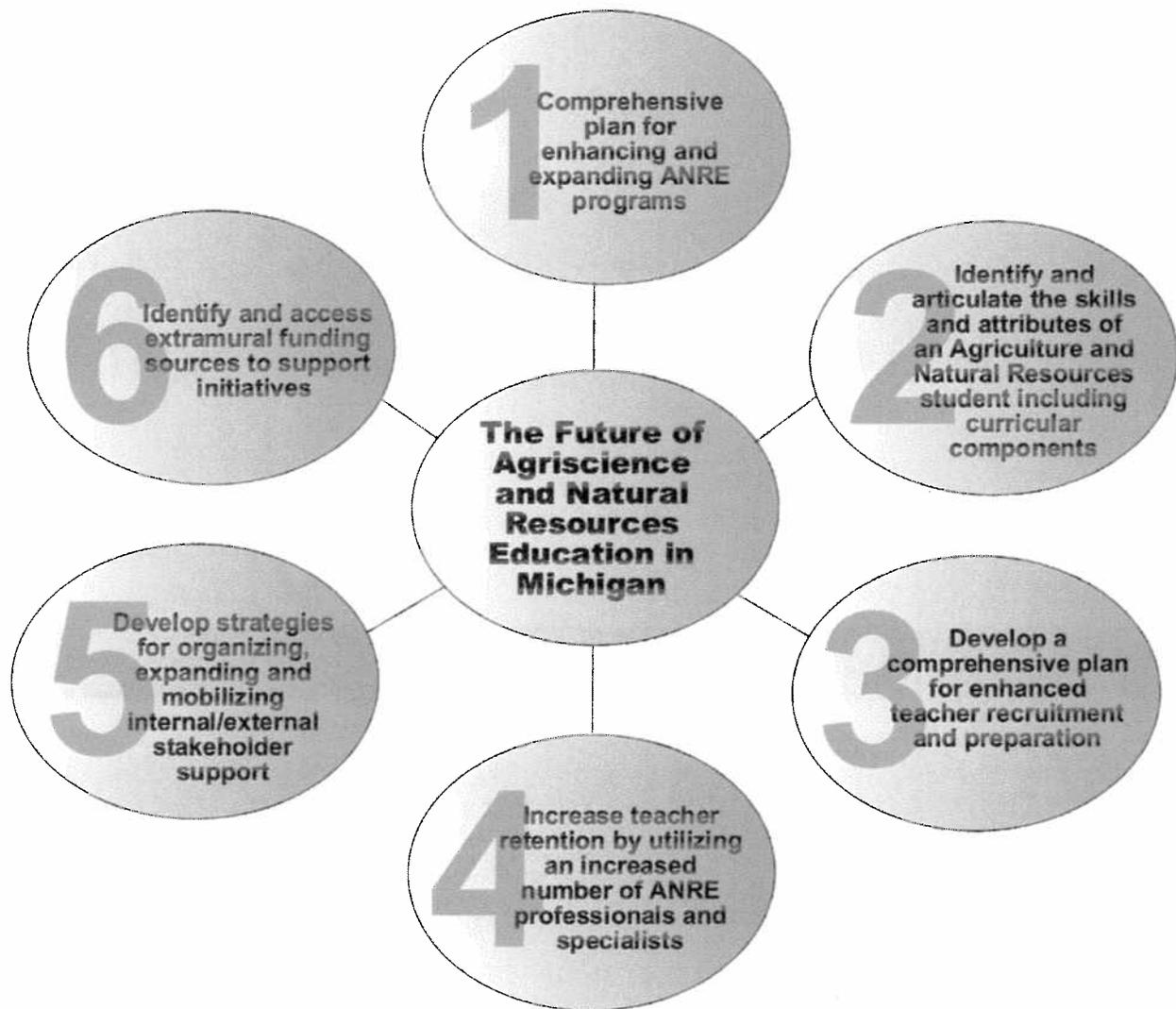


A Blueprint for the Future:

A Strategic Plan for Agriscience and Natural Resources in Michigan



Vision

Michigan Agriscience and Natural Resources Education envisions a world where all people value and understand the vital role of agriculture, food, fiber and natural resources systems in advancing personal and global well-being.

Mission

Michigan Agriscience and Natural Resources Education prepare students for successful careers and a lifetime of informed choices in the global agriculture, food, fiber and natural resources systems.

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Lower Peninsula declared single EAB zone
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Kudos to MDA staffers
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Writers turn up volume with blogs
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Ag educator deficit

Key Points

- MSU is the only university in Michigan that offers agricultural degrees.
- Tough admittance standards exclude some freshmen.
- MSU can't keep up with demand for agriscience educators.

By JENNIFER VINCENT

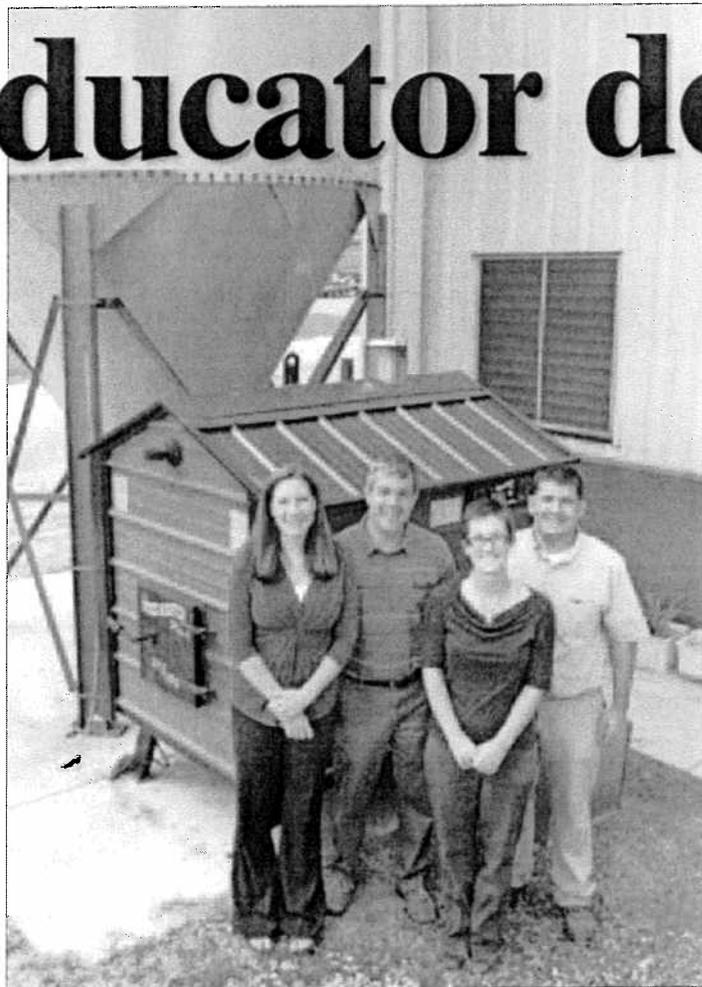
OF the 340 students attending Springport High School, 241 of them are enrolled in an agriscience class. With three agriscience teachers devoting all but four classes to agriscience, it is the largest high school program centered on agriculture and natural resources in the state.

However, no matter how inspired students may be to pursue a career in agriscience education, it's not an easy road to travel — at least in Michigan.

Michigan State University has a stronghold on agricultural majors and is the only institution in the state offering ag degrees. Combine that with tough, competitive admittance standards, and students often struggle to meet the grade point average and ACT requirements.

"Of our agriscience students, only a few have a shot at getting into MSU's four-year undergraduate program," explains Pat Henne, an 11-year agriscience teacher at Springport.

MSU receives 25,000 to 26,000 freshman applications yearly, and only about 7,200 are accepted. The middle 50% of the 2008 freshman class averaged



AG'S STORY: Springport Public Schools is dedicated to agriscience education and nutrition. Its new agriscience building is heated with the corn burner above, thanks to a \$4,500 grant from the Michigan Corn Growers Association. Springport elementary nutritionist is Emily Reardon (second from right), and the school's high school agriscience teachers are Megan Merrill, Pat Henne and Jeremy Glaspie.

a 3.64 GPA with an ACT score of 25.

"Finding a student with the passion to be an ag educator and also having this standard of academic excellence is tough," Henne says.

The lack of ag educators and the challenges they face are growing concerns within the current 103 high school programs with 122 ag educators, who are developing a strategic plan they will unveil next year, pinpointing six areas to strengthen education in agriscience and natural resources in Michigan.

In the meantime, MSU cannot churn out enough agriscience educators to meet demand.

Time to act

MSU has only three interns in agriscience education who are student teaching this year. And, although five are set to student teach next year, it's still down from the 12 that graduated in 2000.

One of those graduates of 2000 was Kyle Fiebig, who is the agriscience teacher at Montague High School and the president of the Michigan Association of Agriscience Educators.

"None of us had a hard time finding a job," Fiebig says. "In fact, several of us were employed before we finished student teaching."

As more and more students become generations removed from the farm, Fiebig says agriscience programs are needed even more in both rural and urban communities.

"We need to do more than retire and replace ag educators," he says.

■ Read more on Pages 6-7 and 60-61.

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NewsWatch



EXCITED ABOUT AG: Springport agriscience teachers Jeremy Glaspie and Megan Merrill (both at left) and Pat Henne (at far right) stand with the school's leadership class in front of what could be the country's largest FFA jacket. By having an agriscience program, students can voluntarily be part of the FFA organization.

Educators face challenges

By JENNIFER VINCENT

IN Michigan, if you want a degree in agriculture, you go to Michigan State University. It's that simple. Or is it?

While some community colleges offer ag courses, no other institutions offer undergraduate degrees in agriculture, largely due to a lack of resources. This poses challenges for students wanting to pursue careers in agriculture as it becomes more difficult to get into MSU.

MSU and the Michigan Association of Agriscience Educators are concerned about the decline of new agriscience educators in the state and are looking at ways to address the situation. "We're in a quandary across the country," says Randy Showerman, state supervisor for agricultural education. "We have a deficit of agriscience educators with more openings than candidates."

Obstacles

In 2000, Kyle Fiebig, who is now the agriscience teacher at Montague High School and MAAE president, completed his undergraduate degree in agriscience education with 11 other students. But, unlike other universities that offer teaching degrees in three and a half years with 12

Key Points

- Agriscience educators must student teach for a full year.
- Demand is increasing for agriscience educators with broader-based certificates.
- The National FFA goal is to have 10,000 agriscience programs by 2015.

weeks of student teaching, MSU requires another full year of student teaching for all teaching certifications.

The teaching internship requires 24 master-level credits, which today costs \$385.65 per credit, plus a \$400 matriculation fee each. Some contend the extra time and cost is a detriment to the program, luring potential ag teachers into industry positions or prompting students to get their education out of state.

While MSU is not discussing adjusting those standards, it did pass an emergency provision that allowed Fiebig and other graduating students to fill an extreme shortage of ag teachers in 2000, caused by retirements that could have shuttered five programs.

"I was working full time and completing my student teaching at the same time," Fiebig says. "It was really tough, but without it, the state would have lost 500 FFA members and 625 ag students."

MSU has also made some other changes. Recognizing the financial and academic struggles some students face in trying to get into MSU, the university recently started offering a connection between the two-year ag tech certification program and a four-year degree.

"For students who complete the ag tech program with a minimum 3.0 GPA and complete college-level math and writing courses, they can transfer those credits one for one into the four-year program," explains Showerman. "For students with financial considerations or

would like to live at home, we urge them to work with community colleges to take courses that will transfer to MSU."

Dave Krueger, special project consultant for MAAE and a former MSU assistant professor, says another option might be to offer distance education, meaning students could take ag courses from Iowa, Purdue or other universities online or through satellite connection.

"If enough classes were offered, students could transfer those credits to a Michigan university that might be willing to offer a minor in agriculture. With a science-based major, like biology, students could then go on to get certified to teach," he says. "Why wouldn't a school like Central Michigan University look at offering a degree in agriculture?"

Changing needs

In the past 20 years, 55 agriscience programs in Michigan have closed largely

because there weren't teachers to fill vacancies. In the last few years that trend has slowed, but Michigan's new Merit Curriculum and declining enrollments around the state are creating more demand for agriscience educators with broader-based certificates. Ag educators from MSU receive a certificate in career and technical education, as well as secondary teaching certificates with vocational certification.

Showerman says, "We're seeing an increasing need for ag educators to have an Integrated Science Endorsement, which allows them to teach chemistry, physics, astronomy and other science courses. Some districts cannot support a full-time ag educator and will need teachers in these other areas to meet the new requirements."

That was exactly the case for Bronson High School, a small Class C school in Branch County. It lost its long-standing



HANDS ON: Students in Pat Henne's Springport agriscience class move pastured turkeys to a new paddock. While many districts do not have an agriscience program at all, Springport has grown its program over the last several years and now has three agriscience teachers.

Newly qualified agricultural education teachers, 2005-06

	Newly qualified	Teaching in state
Illinois (4 universities)	36	25
Ohio State University	34	13
University of Minnesota	31	12
Wisconsin (3 universities)	29	7
Purdue University	18	12
Iowa State University	13	6
Penn State University	12	6
Michigan State University	1	0

agriscience program two years ago when the teacher retired. "Despite a nationwide search, we've been unable to find a suitable replacement given the demands we have," explains Ric Seager, Bronson High School principal. "We need an agriscience educator that is also qualified to teach chemistry or physics."

Bronson still offers plant science and animal science classes, but they are not vocationally certified, which means the school can no longer offer FFA.

Potential for growth

The National FFA program has launched an initiative to grow agriscience programs to 10,000 by 2015.

"We need to develop the community support that drives districts to consider adding new programs," Fiebig says.

Krueger agrees. "In 1999 to 2000, there were 140 students [total] in those programs," he says.

Today, there are 29 students majoring in agriscience, 19 in agriculture and natural resources communication, and 12 in the new environmental studies and agriscience major.

"We need another 70 to 80 students in agriscience, and at least a dozen teachers every year if we want to grow," Krueger says.

There is interest

OF the 576 school districts and charter schools with secondary programs in Michigan, 103 have an Agriculture and Natural Resources Extension program.

Randy Showerman, state supervisor for agricultural education, says developing new ag and natural resources programs hinges on identifying the needs of the community and offering more than a one-size-fits-all program. "Schools can choose to be focused in agriscience, natural resources, horticulture or agribusiness," he says. "This year, for the first time ever, we have new and emerging programs, with eight schools applying for veterinary science programs, two applying for biotechnology and one Intermediate School District wanting to form a partnership with Potter Park Zoo for a wildlife habitat program. We're also having conversations with other schools to develop studies in renewable fuels, and food science and safety programs."

Communities first have to recognize a need and work with their school administration, he advises. An application and letter of intent is then filed with the state before working with the Michigan Department of Education to develop a curriculum.

Programs throughout the state have been successful in securing extra funds to develop and enhance agriscience programs through grants and district bond proposals. In addition, for the last two years, the state has appropriated about \$31 million to support career and technical education programs. Agriscience programs have garnered about \$1 million annually. If programs meet state requirements, they become eligible for state funding of \$197 per student per 60-minute course. However, the funding is not guaranteed, and in 2006-07, 40% of the school districts that had ANRE programs received no funding.

As season ends, surveys sent out

Key Points

- Surveys supply important county estimates for major crops and livestock.
- County-level cash rent data will be collected on all three surveys.
- Data can be collected through the mail, telephone or online.

AS farmers finish harvesting this year's corn and soybean crops, the USDA National Agricultural Statistics Service's Michigan Field Office will conduct three major surveys: the 2008 County Agricultural Production Survey, or CAPS; the December Agricultural Survey; and the December Hog Report.

CAPS has been restructured to provide a more uniform and consistent format for collecting county-level data across all states. Data from these surveys will also be used to establish final 2008 crop acreage, yield and production estimates; 2009 winter wheat and rye seedings; grain stocks; and hog inventories and farrowings.

County estimates for major crops and livestock are an important outcome from these surveys. Also, for the first time, county-level cash rent data will be collected on all three surveys. This is being done to meet USDA's needs to administer vital farm commodity, credit,

conservation, disaster and loan programs.

To get the final story on the 2008 crops, about 6,700 Michigan farmers will be contacted on the 2008 CAPS, about 1,700 will be asked to complete the December Agricultural Survey, and about 220 more will be contacted on the December Hog Report. Each report is critical to ensure data reliability.

Kept confidential

Most selected farmers will receive a questionnaire in the mail. Some will be contacted by telephone or be interviewed in person.

Completing the survey online is also an option for all three surveys. Reporting by mail or on the Internet will eliminate the need for telephone or personal follow-up, thus keeping survey costs to a minimum. Individual reports from farmers are kept confidential and only summarized to set county, state and national estimates of crop production and livestock inventories.

Published estimates from these surveys level the playing field for farmers and ranchers, giving them access to the same information as elevators, input suppliers, bankers and others with whom they do business.

For more information on the surveys, contact the Michigan Field Office at 800-453-7501.

Corn marketing program elects 4 new officers

CLARK Gerstacker of Midland is among four new officers recently elected to lead the Corn Marketing Program of Michigan. The board of directors elected Gerstacker to serve as president, while Brian Kreps of Temperance was elected vice president. Mark Kies of Allen will serve as treasurer, and Jay Drozd of Allegan will be secretary.

Established under Public Act 232 in 1965 and voted in by the state's corn farmers in 1992, CMPM receives a penny per bushel for all field corn grown in Michigan that's sold. The checkoff funding is invested in research, market development, education and new uses. The nine-member, governor-appointed board of directors sets the yearly direction of the checkoff program.

Board terms are staggered, and each year three board positions are up for appointment. Michigan is divided into nine districts based on corn production.

Each district is represented by a corn farmer from that area.

"I am honored to be president of the Corn Marketing Program of Michigan," says Gerstacker, who is also a National Corn Board member. "During the past year, the CMPM has accomplished a great deal, including dispelling the myths surrounding corn and ethanol by spreading 'kernels of truth.' It's also funded research that could improve current production techniques and efficiencies, or create a new market or usage for Michigan's corn crop, as well as help educate the state's consumers."



CLARK GERSTACKER

News Briefs

Floriculture group names Krauskopf honorary member

In recognition of outstanding contributions to the Michigan floriculture industry through university research, teaching and Extension, Dean Krauskopf has been named an honorary member of the Michigan Floriculture Growers Council.

MFGC was created in 2005 to keep Michigan growers informed and ensure their interests are represented in public policy and industry issues.

Krauskopf served as Michigan State University Extension Greenhouse agent for southeast Michigan and worked to promote profitability while minimizing environmental impacts.



OUTSTANDING CONTRIBUTIONS: MFGC Executive Director Gale Arent (left) presents an honorary member plaque to Dean Krauskopf on his retirement from MSU Extension.

Foundation awards \$100,000 to Foods Resource Bank

Foods Resource Bank, an international humanitarian organization with offices in Kalamazoo; Western Springs, Ill.; and Dubuque, Iowa, received a \$100,000 grant from The Conrad N. Hilton Foundation in Los Angeles. In keeping with the Hilton Foundation's goal "to alleviate the suffering of the world's most disadvantaged," the grant will be used to further FRB's mission of mitigating hunger in some of the world's poorest villages.

Corn warms Spartan tailgaters

Michigan State University Spartan fans were able to keep warm this fall thanks to corn. The Corn Marketing Program of Michigan, with Universal Grain Burner in Farwell and Wood & Sons Corn Bin in Williamston, used corn heaters to warm the WJR broadcast tent and the MSU Alumni Association's hospitality tent during the final four home football games.

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Marketing

Springport students embrace agriscience

By JENNIFER VINCENT

As part of Pat Henne's ag biology class, students set up a coop for chicks and vote on an experimental project focused on nutrition. They contemplated supplying Mountain Dew to one group and another water, but ultimately abandoned that idea for something more real world. They decided to feed an approved additive that is supposed to make chickens gain more in the last week and a half before slaughter.

At the agriscience program at Springport High School, students administer feed rations, haul manure, and document changes in behavior and growth. "They're involved from the day-old chick to putting it on the plate," explains Henne, who, with Megan Merrill and Jeremy Glaspie, is a program instructor.

"Ultimately, we found the additive didn't work and, in fact, the control group gained more weight."

The experiment was over, but the project wasn't finished. Six weeks after the chicks arrived, the students set up a processing lab in the school and are involved in the slaughter, from gutting and plucking to final inspection and mopping floors. "There's a job for everybody," Henne says.

The Springport High School agriscience program is very hands-on and

Key Points

- More than two-thirds of Springport High's enrollment is involved with agriscience.
- Focus is on production agriculture, homegrown food and nutrition.
- Community support strengthens program's offerings.

has been hailed as a model for the state as more than two-thirds of the school's 340 students are involved in agriscience and 100 are FFA members. That's particularly impressive when only 2% of the students have any exposure to production agriculture and only three students come from family farms of 1,000 acres or more.

Springport offers ecology, botany and zoology for science credits, and ag finance for a math credit. Electives include landscaping, ag mechanics and leadership.

"We're looking at trying to get some sort of art credit for landscaping and maybe a fourth-year English credit if students take three years of leadership," Merrill says. "I really feel like we are reaching the kids because I get phone calls from students after they've graduated who want to help out because they miss it."

The strength of any school's agriscience program is directly connected to the teachers, says Dave Krueger, special projects consultant for the Michigan



FFA PROUD: Springport students — junior Brittney Bommarito (left) and sophomores Erika Prine and Kristy Dyer — are proud to be FFA members. Bommarito is the chapter president, and Prine was last year's Greenhand public speaking winner. Prine says the FFA program helped build her confidence and ability to speak out about the farm-to-school program and her distaste for premade school lunches.

Association for Agriscience Educators. "Quality programs are made because of quality teachers. These schools are doing good because they have great teachers," he says.

Hands-on

On an October afternoon, Henne's zoology class moved fences, waterers and feeders to put their pastured turkeys on a new paddock.

"We used to be just row crops, but students are very interested in animals and they are a better investment with a higher rate of return," Henne explains.

Now, students raise beef cows, ewes, turkeys and chickens, and farrow a sow. "We're getting ready to breed our ewe for our club lamb sale," Henne says. "The kids run the whole program, start to finish, and the proceeds go back into the program."

The whole school recently benefited from HarvestFest, a celebration of locally grown food that will likely become a tradition. Henne's zoology class fed the district's 1,000 teachers, administrators and students with two lambs that were grown, slaughtered and cooked by the class. Students also prepared and cooked potatoes from the Lyle Curtis Farm in Brooklyn, and squash and apples grown by a Springport teacher. The schoolwide event engaged elementary students in making apple crisp, preparing and baking squash, and mashing potatoes.

Another melting pot for elementary and high school students is the hoop-house the district built after receiving a 1998 grant from the Jackson Community Foundation. Botany students grow lettuce for the school's salad bar. And, because Springport believes ag and nutrition education should start early, elementary school students also get their hands dirty.

Emily Reardon is in her second year of teaching the elementary nutrition component using federal money. She coordinates with Merrill's leadership class, which takes on a mentoring role in developing nutrition lesson plans for the elementary students. "They use the greenhouse and the gardens to teach about how food is produced with an em-

phasis on its nutritional values," Henne explains. "This is a great program and other schools could get involved. There is \$55 million available in Michigan through the farm bill."

Springport doesn't currently have a middle school agriscience program, but they do have an eighth-grade recruitment program and an assembly.

For sophomore Kristy Dyer, she got involved with agriscience and FFA because she saw how much her older sister, Jackie, liked it. "The class is really a model class and everyone in it is developing confidence. You can be yourself, but yet there is a unity."

Henne says it's that kind of reputation and peer involvement that helps the program thrive and grow.

Community support

The school is particularly proud of its new barn and the foundation of community support it sits on.

In 2005, the district presented voters with a multi-million dollar bond proposal for new construction and renovation of the middle school. The administration added a \$200,000 request to the proposal for an agriscience building. It passed.

Craig Ward, Springport school board member and Jackson business owner, says there was resounding support for the barn from the board. "With several large farms in the area, adding the barn kind of took the sting [of higher taxes] out of the bond request. It hit home with them and, I believe, contributed to the proposal passing. We've always had a good agriscience program, but since Mr. Henne came [in 1997], now it's also an FFA program. It didn't take long for the community to see what the program was producing. Not only are kids gaining an understanding of agriculture, they're also gaining leadership skills. They're not afraid to get up and speak and do it with confidence."

The barn is used for feed storage and animal projects. It also houses a freezer/refrigerator unit. "The ag mechanic students built the loft, and they will be building two 'warm' rooms — one for plants and one for animals," Ward explains.

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Marketing

Co-op offers nonstop involvement

By JENNIFER VINCENT

For 12 students, their agriscience education continues through the summer in a co-op program at Springport High School. Students pay \$500 up front to buy animals and feed. "If they don't have it, most are able to borrow it from the Farm Service Agency," Pat Henne says. "There's a demand, so there is an application process. None of the students come from farm families."

Students are expected to work 20 to 30 hours a week, raising beef cows, sheep, turkeys and 1,000 broilers. They also tend to the vegetable gardens and operate a farm stand in town two days a week, April through November. "The animals are free-ranging and grass finished," Henne says. "It's not a philosophy we're pushing, but we're able to sell them for more. Before Thanksgiving, we sell the birds to a buying group in the metro Detroit area."

Students are paid every two weeks, which is used toward their loans. "It's a summer job, but hopefully they learn something in the process and gain an appreciation for where their food comes from," Henne says.

Junior Ashley Miller lives in town and was a member of the co-op team this year. "It gave me something to do this summer and learn about livestock.



AG ATTRACTION: Ashley Miller, a junior at Springport High School, was one of 12 students involved in the school's summer co-op program.

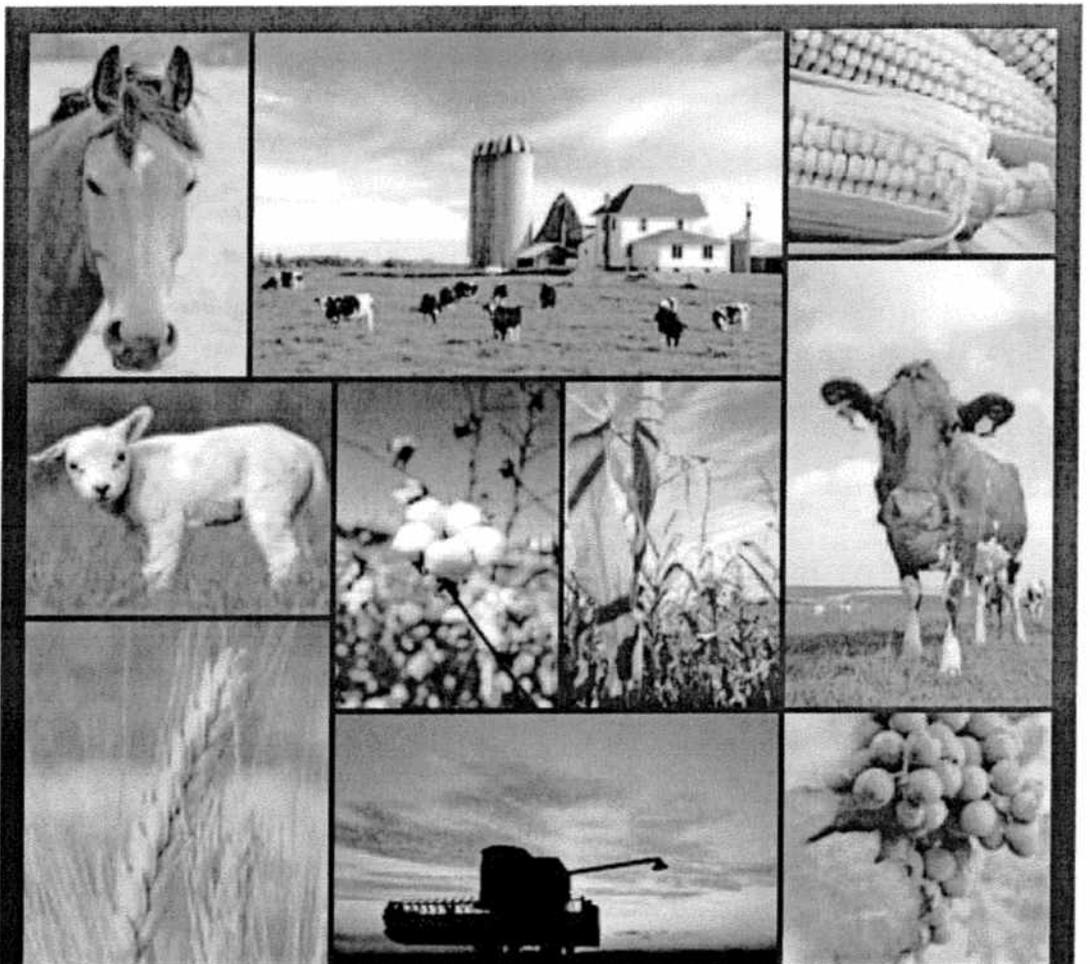
At times, it was hard because you have to tend to them every day, but I'd do it again."

An important component to agriscience education is the opportunity to be in FFA and its leadership-building activities. The students run the chapter and its \$40,000-plus budget from dues

and fundraisers. They plan and manage all their activities, including everything from feeding 300 people a barbecue meal during homecoming to an auction in the spring, where students donate eight hours of labor.

"Our goals are to get kids involved with agriculture and at least make them

educated consumers and possibly advocates for farmers. We cannot rely solely on MSU for that, and 4-H is not comprehensive enough. We need programs in the urban, suburban and rural areas. We are barely maintaining our programs in Michigan. We should be growing them," Henne says.



Did You Know?

Why is the sky blue?

WHEN sunlight travels through the atmosphere, it collides with gas molecules. These molecules scatter the light. The shorter the wavelength of light, the more it is scattered by the atmosphere. Because it has a shorter wavelength than the other colors, blue light is scattered more, ten times more than red light, for instance.

Why does the setting sun look reddish orange? When the sun is on the horizon, its light takes a longer path through the atmosphere to reach your eyes than when the sun is directly overhead. By the time the light of the setting sun reaches your eyes, most of the blue light has been scattered out. The light you finally see is reddish orange.

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