Farm to table

by Abbe Miller, editor-in-chief

Whether seeking out maintenance skills or a totally new career path, a welding education goes a long way in the agricultural industry.
A farmer’s day starts long before the sun comes up. And his list of responsibilities hardly stops at tending to the crops. On top of plowing, planting and harvesting, farmers, more often than not, have to take care of a menagerie of animals. And, in addition to the business side of operations, they also have to deal with the day-to-day maintenance of the property and equipment. It’s a wonder there are enough hours in the day.

In terms of maintenance, the list of equipment that farmers must upkeep is long: tractors, trailers, plows, fertilizer spreaders, threshing machines, balers, cultivators and combines. There are also silos, grain bins, fences, gates, conveyors, and watering and irrigation systems that require occasional repair.

Considering the average size of a U.S. farm is 444 acres, one farmer couldn’t possibly handle all of this work alone. In addition to relying on family members, many farmers hire help to ensure that every acre is well maintained.

Those job titles include farm manager, maintenance supervisor, mechanic, farm/ranch hand and farm equipment operator, among others. Many of these jobs offer a good salary. And many of them require some level of welding experience.

PLANTING SEEDS

Knowing the many career opportunities available in the agricultural industry, the American Welding Society (AWS) offers a range of courses beneficial to agricultural career seekers and farmers that need to handle their own maintenance. Alicia Garcia, director of education and training at AWS, singled out four courses that would be especially well suited for these individuals: Welding Fundamentals I and III, Fabrication Math II and Safety in Welding.

Garcia suggests that students start with the Safety in Welding course, but she also mentions that the four recommended courses do not need to be taken in any particular order as each course is independent from the next. As an example, Welding Fundamentals I teaches beginning

Unlike the woman shown here, sleeves are typically required while welding. Maintenance jobs on a farm are wide ranging, including fencing repairs that must be carried out by someone with welding experience.
Welders the basic principles of welding, including the main four arc processes as well as various cutting and gouging processes.

Welding Fundamentals III offers a comprehensive approach to brazing and soldering while Fabrication Math II explains concepts, equations and formulas for estimating, planning and producing quality welds. Topics include everything from percentages and ratios to unit conversions and the calculation of area and volume.

“The Welding Fundamentals I course covers the basic welding processes, which is what you’ll see being used for a whole host of agricultural repairs,” Garcia says. “For HVAC and cooling system repair, which is a typical maintenance job on a farm, the Fundamentals III course covers brazing and soldering. If a part needs to be fabricated to complete equipment repair, the Fabrication Math II course is incredibly helpful.”

ON COURSE
Interested individuals can take courses online or they can attend courses at a certified AWS partner school. For those in rural areas, the online option is incredibly convenient.

“Because our courses are available online, students can access welding instruction whenever they need to,” Garcia explains. “They don’t need to sign up for a class on a specific date, either. As soon as they enroll in the course, they’re able to take it immediately.”

For those more comfortable learning on-site or who may not have the...
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Members of Future Farmers of America tour the Careers in Welding Trailer at the National FFA Convention and Expo.

equipment to practice and train on, AWS partners with community colleges all across the country, including, of course, those in traditional agricultural states.

“A lot of schools offer welding courses, so for someone more inclined to work with an instructor and attend a physical location, we have a welding school locator on our website to seek out community or technical schools,” says Monica Pfarr, executive director of the AWS Foundation, a not-for-profit charitable arm of the AWS that focuses on growth and development in the welding community through research and education. “Traditionally, community college tuition is pretty inexpensive, so it’s a nice option for individuals seeking out on-site training and education.”

AWS courses offer certificates of completion as well as professional development hours that serve as
The AWS partnered with Lincoln Electric to ensure that students get the most from their time aboard the Careers in Welding Trailer.

unmatched differentiators when applying for a job. They can also be applied toward other certifications, such as certified welder, welding instructor or welding inspector. Courses range from $99 to $495 for nonmembers, and $74 to $370 for AWS members.

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The AWS gives students the opportunity to try welding with the help of Lincoln Electric’s Vrtex 360 virtual welding simulator.

“With the help of our in-house curriculum, including virtual welding simulators, we partner with community colleges and organizations such as Future Farmers of America (FFA), which promotes and supports agricultural education for middle and high school aged youth.

“We focus on elevating the welding industry and informing the general public about the many career opportunities in welding,” Pfarr says. “In the agricultural space, we partner with a lot of schools and organizations, including FFA in particular, to make sure that welding is a component of agricultural education. The goal is to help students understand that there are many job opportunities in the agricultural industry where having a welding background and a basic understanding of welding could be very important.”

Every year, AWS attends the FFA National Expo with its Careers in Welding Trailer, a large mobile exhibit that lets high school students learn more about welding careers and even try out welding with an on-board virtual welding simulator. The trailer also makes its way to high schools and trade expos around the nation as well as state fairs throughout the Heartland. Each year, more than 28,000 people come on board.

“A lot of students that talk to us at the FFA National Expo say that they learned how to weld from their grandpa or dad while repairing fences on the farm,” Pfarr notes, “but, they never thought about taking that skill and making a career out of it. It’s a great example of taking experience from the farm and using it as a really lucrative career opportunity.”

AMERICAN WELDING SOCIETY