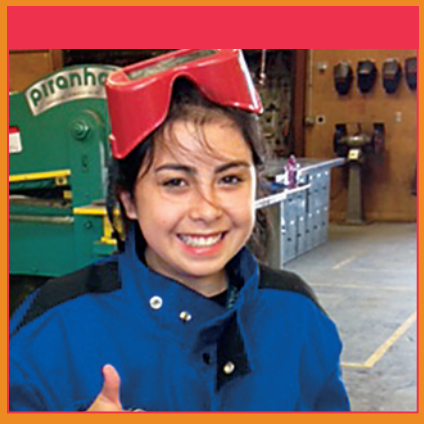
JOBS FOR THE FUTURE

Skills Mapping
in the Central Valley



How Ag Prep is Linking Education to Careers

Fall 2015


N DEERE
Since 1969
KERN MACHINERY
WE DELIVER SOLUTIONS
(661) 746-6363

Contents

By Thad Nodine

Thad Nodine is an education writer affiliated with Jobs for the Future, a Boston-based national nonprofit that provides technical assistance in support of The Wonderful Company's education programs.

High school students from Wonderful Agriculture Career Prep (Ag Prep) made sharp gains in academic performance during their freshman year (2014-15) and they're back this year, along with a new group of freshmen, taking more college courses and participating in work-based learning.

Ag Prep is a partnership in the San Joaquin Valley that brings together several high schools, community colleges, and The Wonderful Company to create fundamental changes in how students experience school. The Wonderful Company grows, harvests, and distributes healthy foods to consumers across America and around the world.

During year one, Ag Prep served some of the lowest-income and lowest-performing students in California, with these results:

- 9th graders had a **90% pass rate** for their first four college courses, which surpasses completion rates for comparable courses taken by community college students.
- 9th graders **grew by two academic years in reading and math** their first year.
- **79%** of 9th graders are **on track for meeting college entrance requirements** for UC and CSU (more than twice the rate than for similar students).

Ag Prep immerses students in a rigorous, relevant curriculum that features interdisciplinary agriculture projects, college courses, and work-based learning (including job shadows and paid internships). Students complete a college-prep curriculum and over 50 college credits in high school, which enables them to earn an associate (AS) or associate for transfer (AS-T) degree the summer after graduation. Graduates are then able to choose between a guaranteed, well-paying skilled career within The Wonderful Company, or entering a four-year college as a junior, earning their undergraduate degree in half the time (two years).

"The program changed my perspective on agriculture. It isn't just about crops and stuff. It's a whole lot more."

— **Ag Prep Student**, Wonderful Academy

Career Prep. Students participate in one of three agriculture pathways that include high school classes, college classes, and work-based learning. The Ag themes help motivate students academically, while also preparing them for careers. The pathways are:

Ag Business. Human resources, purchasing, accounting, inspecting, procurement, marketing, and selling of agricultural products.

Ag Mechanics. Machine operations, maintenance mechanics, infrastructure mechanics, and fabrication.

Plant Science. Soil conservation, pest management, irrigation, and research and evaluation.

"None of my family members have been to college. I want to do that for my younger brothers and sisters so they can see that anything is possible."

— **Ag Prep Student**, Sanger High School

How Does Skills Mapping Fit In?

Ag Prep partners are working together to make sure high school graduates are prepared both for **college and career success**. To make that happen, high school courses need to be aligned both with the rigors of college and the skills needed for well-paying careers. On the career side, California's Ag industry has become much more high-tech, specialized, and innovative over the past decades. Even its entry-level job openings now require workers to have mid-level skills in technology, math, communications, and other areas important for Ag production and processing. Most high schools and colleges are behind the curve in adapting to these career pathway opportunities, so Ag Prep developed its skills mapping process to engage community college faculty with The Wonderful Company executives, ensuring that course syllabi reflect actual job skill requirements.

Skills Mapping Promise.

Ag Prep's partners are using skills mapping to ensure that high school courses, college courses, and work-based learning experiences are aligned to provide students with the skills needed for well-paying careers in agriculture—and with the rigors of university coursework.

Skills Mapping Process.

Since fall 2014, high school teachers and community college faculty have been working with managers at The Wonderful Company to align educational curriculum with labor market demand in Ag Prep's three pathways. The process began by creating a Pathway Advisory Committee (PAC) for each pathway.

Participants included:

- **High schools:** Ag instructors, science instructors, program coordinators, and principals.
- **Community colleges:** Ag faculty, department chairs, and deans.
- **The Wonderful Company:** managers, supervisors, engineers, directors, and vice presidents of operations.

Each of the three PACs engaged in a series of facilitated group and one-on-one conversations that have already yielded changes in high schools, colleges, and industry. The process featured these steps:

1. **Identify the top 8–10 industry skills for each pathway.** Collect job descriptions for entry-level and mid-skilled career positions, and collect syllabi and learning outcomes for pertinent courses. Create a comprehensive list of industry skills from the job descriptions and syllabi. Select up to 10 top technical and professional skills for each pathway, and update based on committee feedback. List the courses and work-based learning experiences that provide students with each of the top 10 skills. Identify learning outcomes where available.

"Agriculture is no longer just about farming in a field. Most students don't know how much technology is necessary in modern agriculture."

— **Gladys Wotring**
Director of Human Resources, POM Wonderful

2. **Engage participants in identifying skills gaps.** Based on the above documents, facilitate discussions about potential gaps between the top skills identified and the existing curriculum. Solicit input as to the respective roles of high school courses and projects, college courses, and work-based learning activities (such as job shadowing and internships) to ensure that the top skills are taught across the curriculum.

3. **Facilitate changes in schools, colleges, and work-based learning activities.** Based on the above process, simplify and publicize the technical and professional skills identified for each pathway (for examples, see handout). Work with partners in schools, colleges, and industry to adjust instructional activities to address the skills gaps. Ag Prep's work in this area is summarized on the following pages.

"It has been interesting to see industry leaders place a high priority on problem-solving skills as well as technology, math, and literacy."

— **Rebecca Farley**
Senior Director, Wonderful Ag Career Prep

Ag Prep Partners in Skills Mapping

High Schools

Avenal High School
Reedley Middle College High School
Sanger High School
Wasco Union High School
Washington Union High School
Wonderful College Prep Academy (Delano)

Community Colleges

Bakersfield College
Reedley College
West Hills College

Agricultural Companies

The Wonderful Company and its brands, including POM Wonderful, Wonderful Halos, Wonderful Pistachios & Almonds, and Wonderful Sweet Scarletts

Early Results of Skills Mapping

Ag Prep's skills mapping **confirmed the importance of 21st century skills** in the workplace, including problem solving, communication, technological literacy, teamwork, organization, analysis, and scientific and numerical literacy. The top technical skills differed significantly by pathway, but the top professional skills were very similar across all pathways. As a result, Ag Prep developed a single listing for **professional skills** in the Ag industry, plus separate listings for **technical skills** in Ag Business, Ag Mechanics, and Plant Science (see handout).

The skills mapping process is already leading to early changes in participating high schools, colleges, and industry:

Ag projects in high schools. For the past year, high schools participating in Ag Prep have been creating new interdisciplinary projects based on Ag themes. The skills maps have been used to leverage these projects to cover skills gaps in the curriculum. In 2015, an instructional coach led summer institutes to guide the teaching teams at each high school in developing robust projects aligned with the skills maps. The teams developed nine new projects for 2015–16 aligned with the skills (including the projects summarized in Table 1). The coach is providing follow-up support to teachers throughout the year.

Externships for college professors. As a result of skills mapping, Ag Prep's Plant Science pathway developed a 14-day externship for 2015–16 to enable college professors to experience these technical and professional job skills in action, so they can be more seamlessly integrated into their coursework. During the externship, professors go into the orchards, into processing plants, and to corporate headquarters to gain firsthand knowledge of how a vertically integrated organization like The Wonderful Company manages all aspects of its operations—including processing, distribution, irrigation technologies, pest management, advanced farming practices, and sales and marketing. This innovative program affords educators a real-world understanding of the workforce challenges and skill-based needs that exist across these varied disciplines. Ag Prep is currently developing comparable externships for professors in the Ag Business and Ag Mechanics pathways.

"Hopefully our professors walk a mile in workers' shoes and come back with mud on their boots and dirt under their fingernails."

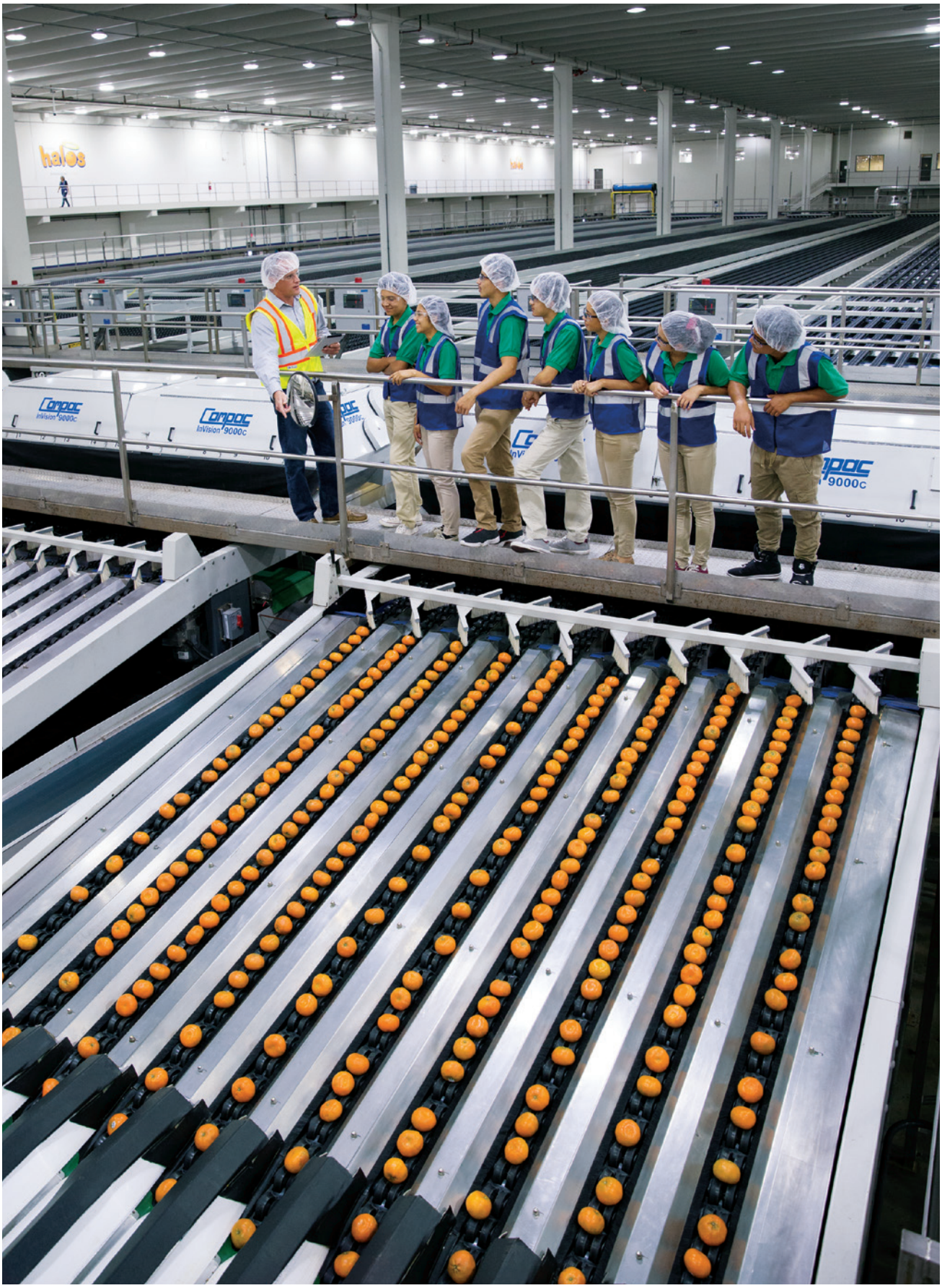
— **Clint Cowden**
Director, Farm of the Future; West Hills College

Table 1: Sample of Interdisciplinary Projects Aligned with Skills Maps

PS = Plant Science **AB** = Ag Business **AM** = Ag Mechanics

High School	Project Title	Technical Skills
Avenal	GMOs, yes or no?	**PS 1** Applying principles and techniques for growth, fertility, and nutrition of plants and plant products. **PS 5** Writing and reviewing reports for plant production and management. **PS 7** Using computers/technology to benefit plant production and management.
Reedley Middle College	How do you craft an effective pitch to a potential investor?	**AB 1** Using math to analyze and present business information, solve problems, and make decisions. **AB 5** Making good business decisions in light of the global market and economy. **AB 6** Using the principles of agribusiness to purchase or sell products and services.
Sanger	How can you power a small-scale farming system using alternative energy?	**AM 2** Troubleshooting equipment and systems. **AM 8** Modifying and fabricating parts and equipment. **AM 9** Applying math to practical situations or problems. **AM 10** Using technology to make work more effective and efficient.

Numbers refer to skills identified in the skills map handout at the back of this document.


halos
Compac
InVision 9000c

Job shadowing at The Wonderful Company. The Wonderful Company is providing job shadowing experiences for all 200 sophomore students during the 2015-16 school year, and the skills maps have been instrumental in aligning job shadowing activities with the educational curriculum. According to Noemi Donoso, Senior Vice President at Wonderful Education, "When we first began talking to executives about job shadowing, it was difficult to identify the areas of focus we were seeking. Now we show them the skills maps and it's a different conversation. They look at the skills that we prioritize and immediately start creating a list of their superstars that embody those skills in action."

Next Steps

In 2016, Ag Prep is building on the skills mapping by expanding interdisciplinary Ag projects, externships for college professors, and job shadowing activities. In addition, the three advisory committees (in Ag Business, Ag Mechanics, and Plant Science) have already begun to create competency rubrics for each of the top skills that they identified last year. The rubrics will articulate clearly what students should know and be able to do to show proficiency in each skill. In turn, this will help instructors align assignments and activities to build toward those proficiencies. Stay tuned!

"I'm hoping that we'll start seeing students who go through this curriculum. I want them to come through our doors and get hired."

— **Arnold Viduya**
Farm Accounting Manager, Wonderful Halos

Jobs for the Future

Jobs for the Future works to ensure economic opportunity for all. Their innovative college and career pathway models give those struggling to succeed access to needed knowledge, skills, and credentials. They partner with education, workforce, and business leaders to understand the labor market and design systems to sustain a pipeline of skilled workers. They advocate with policy makers for state and federal policies to support this work.

The Wonderful Company

The Wonderful Company is a privately held $4 billion international company that offers healthy, iconic brands for healthy lifestyles. Wonderful Pistachios & Almonds is the largest vertically integrated pistachio and almond grower and processor in the world. Wonderful Citrus is the largest integrated grower, packer and shipper of fresh citrus in the U.S. These operations, which are located in California's Central Valley, are also affiliated with the worldwide leader in fresh California pomegranates and various pomegranate-based products. The Wonderful Company's products can be found in the produce aisles of grocery stores nationwide under popular retail brands, including Wonderful Pistachios, Wonderful Almonds, Wonderful Halos and POM Wonderful. For more information, go to www.wonderful.com.

Wonderful Education Programs

Wonderful Education is an innovative educational program that is driving positive change in California's Central Valley. As a philanthropic extension of The Wonderful Company, Wonderful Education funds a host of college and career readiness programs to promote opportunities for young people in California's Central Valley. Wonderful Education initiatives include college and career readiness, college scholarships, school grants, summer school programs, arts education, early childhood programs, teacher development and parent engagement. Wonderful Education coordinates directly with The Wonderful Company to offer a sequence of rich work-based learning experiences for all Wonderful Agriculture Career Prep students, including paid internships.

JOBS FOR THE FUTURE

p: 617.728.4446 **f:** 617.728.4857 **e:** info@jff.org

88 Broad Street, 8th Floor, Boston, MA 02110
122 C Street, NW, Suite 650, Washington, DC 20001
505 14th Street, Suite 900, Oakland, CA 94612

www.jff.org

SKILLS FOR SUCCESS IN AGRICULTURAL MECHANICS:

A Snapshot of Technical Skills Ag Prep Students Will Possess

1. SAFELY USING TOOLS, EQUIPMENT, AND SUPPLIES

- **A.** Understanding and following health and safety policies, regulations, procedures, and practices, including the use of equipment and handling of hazardous materials. This includes health and safety practices related to storing, cleaning, and maintaining tools, equipment, and supplies
- **B.** Understanding and following the employer's safety rules and procedures to ensure worker, machine, and product safety
- **C.** Understanding the safety color code
- **D.** Dressing for safety
- **E.** Knowing how to prevent and respond to accidents/emergencies, including preventing and extinguishing fires
- **F.** Reporting problems with a system that does not meet safety or operational requirements

2. TROUBLESHOOTING EQUIPMENT AND SYSTEMS

- **A.** Recognizing malfunctions (including interpreting malfunction warnings and alarm signals), classifying them correctly, and reacting properly
- **B.** Using a variety of diagnostic testing and tuning equipment (such as meters, scopes, high-speed cameras, or computer monitoring equipment) to test the function of equipment and systems
- **C.** Testing, identifying, and diagnosing the cause of problems in a variety of systems (such as electrical, cooling, pumping, gasoline or diesel engine fuel, or hydraulic/pneumatic systems)

3. SETTING UP AND SHUTTING DOWN EQUIPMENT/MATERIALS

- **A.** Laying out materials needed to do the job
- **B.** Selecting the appropriate tools, equipment, and/or materials to do the job
- **C.** Properly shutting down equipment (such as a boiler, oxy-acetylene welding equipment, or an ammonia compressor)

4. OPERATING TOOLS AND EQUIPMENT

- **A.** Using a variety of hand and power tools, jacks, hoists, jack stands, and blocks
- **B.** Using measuring tools such as a tape measure
- **C.** Operating farm machinery and vehicles (such as harvest equipment, material handling equipment, and man lift systems)

5. INSTALLING EQUIPMENT

- **A.** Installing electrical circuits, switching devices, and appliances
- **B.** Installing a low-voltage motor control system
- **C.** Installing sensing devices such as thermostats, programmable controllers, and timers

6. MONITORING, ADJUSTING, AND MAINTAINING EQUIPMENT AND OPERATIONS

- **A.** Monitoring the course of machine production or the quality, size, and grade of products
- **B.** Inspecting irrigation equipment
- **C.** Adjusting valves
- **D.** Performing preventative maintenance by testing, adjusting, cleaning, and replacing worn parts

7. REPAIRING EQUIPMENT AND MACHINES

- **A.** Repairing or replacing farming equipment systems such as hydraulic brake, cooling, or suspension systems
- **B.** Repairing or replacing plant operations systems such as electrical or mechanical systems
- **C.** Documenting/logging machine adjustments or details of repairs
- **D.** Consulting with customers to locate and diagnose equipment malfunctions

8. MODIFYING AND FABRICATING PARTS AND EQUIPMENT

- **A.** Performing welding skills including layout, cutting, shaping, or forming and welding structures together (welded metal fabrication)
- **B.** Fabricating and constructing metal assemblies and equipment from engineering drawings
- **C.** Using high-quality technique and style to shape, fasten, and finish a cold metal project, resulting in a well-made and well-functioning product

9. APPLYING MATH TO PRACTICAL SITUATIONS/PROBLEMS

- **A.** Using math to solve problems (including using arithmetic in all units of measure, fractions, decimals, percentages, ratios, proportions, and rate; and drawing and interpreting bar graphs)
- **B.** Using scale measurement and dimension to develop simple plans and sketches
- **C.** Using micrometer measurements to determine if parts of a small engine are within the specifications set by the manufacturer
- **D.** Estimating the amount of material needed for a project or the cost of construction jobs

10. USING COMPUTERS/ TECHNOLOGY TO MAKE WORK MORE EFFECTIVE AND EFFICIENT

- **A.** Differentiating among, selecting, and applying appropriate technology to the job
- **B.** Using computer monitoring equipment to test the function of equipment and systems
- **C.** Using email, Microsoft Word and Excel files in projects/work tasks
- **D.** Using current technology to develop simple plans and sketches of a project
- **E.** Using digital inventory controls
- **F.** Entering work orders (ordering parts)
- **G.** Using web-based and handheld maintenance management systems (for example, using an iPad to take notes of materials or supplies needed for a project/job)

SKILLS FOR SUCCESS IN AGRICULTURE:

A Snapshot of Professional Skills Ag Prep Students Will Possess

1. COMMUNICATION AND LANGUAGE

A. Reading, analyzing, and interpreting written materials such as general business periodicals, professional journals, technical manuals, inspection reports, or governmental regulations

B. Speaking, reading, and writing clearly in English; preference for bilingual (English/Spanish) speakers

C. Communicating clearly, effectively, and respectfully with coworkers, managers, and customers. This includes providing and presenting information by phone, email/written communication, or in person to individuals and groups (speaking confidently in front of groups of people). Writing should be grammatically correct and free of spelling errors

D. Listening actively, understanding, and asking questions

E. Understanding, interpreting, and following instructions in oral, written, diagram, or schedule form

2. INTERPERSONAL AND CUSTOMER SERVICE

A. Being friendly and polite

B. Communicating with different departments of a company to understand their roles and needs

C. Asking clarifying questions to fully understand a request or task

D. Responding to questions from coworkers, managers, customers, and the general public

E. Requesting feedback and responding non-defensively to constructive criticism

F. Discussing problems and resolving conflict appropriately and calmly with coworkers, customers, and others (for example, effectively handling customer complaints)

3. RESEARCH, ANALYSIS AND PROBLEM SOLVING

A. Researching and finding the right information to assess an issue or problem

B. Analyzing and determining causes of problems, and deciding the best way to solve them (for example, identifying how to improve customer service, increase sales, or fix an operating error)

C. Supporting one's claim/position with substantial evidence and logical reasoning

4. ORGANIZATION, ATTENTION TO DETAIL, AND CRAFTSMANSHIP

A. Conducting and completing projects with a consistent standard of high quality; taking pride in one's work/craftsmanship

B. Interpreting and reporting any errors or miscalculations found in data generation, technical reports, and other documents

C. Keeping organized, detailed, and up-to-date records and files

D. Keeping work area clean and organized

5. SAFETY, ETHICS, AND LEGAL RESPONSIBILITY

A. Following the company's safety rules and procedures

B. Having awareness of the basic laws and regulations – and the major local, district, state, and federal regulatory agencies – that affect the agriculture industry

C. Adhering to quality standards

D. Being honest and demonstrating integrity

E. Handling confidential and sensitive information appropriately and respectfully

F. Reporting to a Supervisor that a system does not meet safety requirements

G. Considering the impact of work-related decisions on the environment and society

6. EMPLOYABILITY

Demonstrating the following:

A. Work ethic (high levels of effort and perseverance) and a positive attitude towards work reports

B. Dependability/Reliability/Responsibility

C. Self-motivation to learn new skills and improve upon existing ones; ability to work with minimal supervision

D. Time management – Arriving to work on time or early; scheduling; planning; setting goals; prioritizing; and setting and meeting deadlines (completing tasks on time and accurately)

E. Flexibility and adaptability

F. Stress tolerance (for example, ability to work well under pressure or in difficult weather conditions)

G. Awareness of the importance of taking care of one's health

7. TEAMWORK AND TEAM BUILDING

A. Collaborating well with others and promoting a teamwork environment

B. Considering the needs and concerns of coworkers

C. Being comfortable working with people of diverse backgrounds

8. LEADERSHIP

A. Motivating and directing people as they work; inspiring others to feel invested in the company's accomplishments

B. Facilitating the training of others using coaching and leadership skills (for example, training coworkers on a skill, new technology, or best business practice)

C. Developing managerial skills (for example, knowing when and how to delegate tasks)

D. Showing confidence to maintain team morale

9. WORK ETIQUETTE

A. Representing the employer through appropriate dress, behavior, and language

B. Being alert

C. Possessing handshake etiquette (making eye contact, shaking hands with a gentle firmness, and turning to a person when speaking)

D. Possessing phone, email, and Internet etiquette (responding in a timely fashion, getting to the point, avoiding slang, not oversharing personal information)

E. Possessing meeting etiquette (never arriving late, but if so, letting the right person know in advance)

F. Respecting people's personal and work space

G. Learning when and where it is appropriate to use one's cell phone in the workplace

H. Possessing company party etiquette (behaving in a way that keeps one's dignity and respects others)

I. Recognizing the connection between work etiquette and business profits

SKILLS FOR SUCCESS IN PLANT SCIENCE:
A Snapshot of Technical Skills Ag Prep Students Will Possess

1. APPLYING PRINCIPLES AND TECHNIQUES FOR GROWTH, FERTILITY, AND NUTRITION OF PLANTS

A. Applying fundamental principles of plant structures and processes to plant production, including understanding: plant biology; the nutrients necessary to sustaining plant growth; reproductive processes found in agricultural ecosystems and the practices used to enhance or disrupt them; and the effects of climate on growth

B. Formulating planting and propagating media

C. Using propagation, nursery, and landscape tools and equipment (for example, identifying, setting up, or operating precision guidance equipment used in agriculture)

D. Choosing and using a variety of methods, approaches, and strategies to apply fertilizers

E. Operating an irrigation system, examining its performance, and making any necessary repairs

F. Mowing, pruning, weeding, and replanting crops

G. Practicing procedures of plant propagation including seeding, cutting, budding, layering, grafting, and dividing

H. Following current industry standards in culturing and harvesting plants and plant products

I. Operating and calibrating an agrichemical sprayer

J. Safely storing and disposing of waste materials

2. MONITORING AND MAINTAINING SOIL HEALTH

A. Understanding fundamental principles of soil, including physical and chemical properties of soils and soil erosion problems; soil moisture and water levels; and principles and practices of irrigation (including soil, crop, and irrigation types and frequencies)

B. Performing soil sampling

C. Analyzing soils for basic macronutrients or amendments needed for crop growth

D. Operating an irrigation system, examining its performance, and making any necessary repairs

3. DEVELOPING AND IMPLEMENTING AN INTEGRATED PEST MANAGEMENT PLAN

A. Looking for typical damage symptoms caused by pests

B. Placing and picking up insect traps

C. Monitoring and assessing fields/orchards for pest problems

D. Using proper control procedures for common garden, landscape, and greenhouse pests

E. Releasing biological control organisms where warranted

F. Identifying insects, mites, and weeds

G. Performing insect sampling

H. Maintaining and making preparations for rearing insect cultures

I. Understanding how chemical controls (for example, herbicides, pesticides, insecticides, and fungicides) are appropriately selected and used

J. Having awareness of pesticide toxicity and persistence in the environment

K. Writing pest control recommendations

L. Making short- and long-term pest management decisions

4. OBSERVING, ANALYZING, AND DIAGNOSING THE CONDITION OF PLANT SYSTEMS TO ADDRESS PROBLEMS

A. Examining plants to identify nutrient deficiency symptoms, identify damage, and diagnose disease

B. Monitoring fields/orchards for pest problems

C. Sampling crop quality and transporting leaf tissue for analysis

D. Examining insect traps

E. Inspecting and mapping weed populations

F. Detecting problems that could affect future crops

5. WRITING AND REVIEWING REPORTS FOR PLANT PRODUCTION AND MANAGEMENT

A. Interpreting recommendations for crop protection and nutrient programs (for example, pest control recommendations)

B. Organizing, writing, and filing field data

C. Preparing operational reports (for example, writing a report on the current condition of fruit, by ranch and block)

D. Creating and reviewing various required and requested reports, summarizing them, and coming up with action plans

E. Reporting abnormal or unexpected results in research

6. USING MATH TO ESTIMATE NEEDS AND COSTS OF PLANT PRODUCTION, MEASURE CROP YIELD, PREDICT CONDITIONS, OR SOLVE PROBLEMS IN PLANT SYSTEMS

A. Using math (such as arithmetic, fractions, decimals, ratios, basic algebra and geometry) to solve problems and calculate figures/amounts, including discounts, interest, commissions, proportions, percentages, area, circumference, and volume

B. Using various indices to predict crop conditions

C. Estimating crop production/yield and making projections for harvest volume

D. Determining rates and gallons per acre of pesticides depending on coverage and effectiveness

E. Estimating the costs of maintaining soil health

F. Using remote sensed data to make maps

G. Working with advanced mathematical concepts to help analyze reports, identify errors and provide resolutions, and review existing reports

7. USING COMPUTERS/TECHNOLOGY TO BENEFIT PLANT PRODUCTION AND MANAGEMENT

A. Collecting, storing, manipulating, and analyzing geographic data and maps (such as GIS and GPS)

B. Using Microsoft Office applications (Word, Excel, and PowerPoint) and Outlook (email) with proficiency

C. Recording measurements from the field

D. Using current technology to compile data and develop reports

SKILLS FOR SUCCESS IN AGRICULTURAL BUSINESS:

A Snapshot of Technical Skills Ag Prep Students Will Possess

1. USING MATH TO ANALYZE AND PRESENT BUSINESS INFORMATION, SOLVE PROBLEMS, AND MAKE DECISIONS

A. Applying math (such as arithmetic, fractions, decimals, percentages, ratios, algebra, geometry, calculus, and statistics) to practical situations

B. Constructing graphs to represent data

C. Analyzing graphs

D. Estimating purchase orders and assessing inventory

E. Checking figures, postings, and documents to make sure the math is correct

2. USING COMPUTERS/ TECHNOLOGY TO MAKE BUSINESS MORE EFFECTIVE AND EFFICIENT

A. Entering work orders into a digital inventory system

B. Conducting on-line research to recommend ideal business solutions and business solution providers

C. Creating reports on a computer

D. Using software to identify and organize inventory

E. Researching equipment parts in business software

F. Designing a PowerPoint presentation for an agricultural product or company

NOTE: Employers often emphasize proficiency with Microsoft Word, Excel, and PowerPoint

3. DRAFTING BUSINESS REPORTS AND CONDUCTING CLERICAL TASKS

A. Writing and proofreading reports, memos, professional business letters, and emails

B. Reviewing time cards and records

C. Building catalogs (of equipment parts)

D. Retrieving and filing paperwork, scheduling appointments, and scanning documents

4. CREATING, RECORDING, MONITORING, AND REPORTING FINANCIAL INFORMATION

A. Debiting, crediting, and totaling accounts on computer spreadsheets and databases using specialized accounting software

B. Using and creating budgets, balance sheets, and income or financial statements

C. Reporting discrepancies found in financial records

5. MAKING GOOD BUSINESS DECISIONS IN LIGHT OF THE GLOBAL MARKET AND ECONOMY

A. Understanding relevant current and historical issues in agricultural business

B. Understanding agricultural marketing systems, and the business and economics of the agricultural industry

C. Knowing the role of agriculture in the economic structure of the state, country, and world, as well as the changing nature of rural society

D. Knowing the historical and geographical relationship between agriculture, the environment, and a given society (for example, the role of immigration on agricultural labor and agriculture's effects on the environment)

6. USING THE PRINCIPLES OF AGRIBUSINESS TO PURCHASE OR SELL PRODUCTS AND SERVICES

A. Purchasing and selling agricultural products and services, which can include creating purchase orders and obtaining product or service information (such as price, availability and delivery schedule)

B. Using sales strategies and customer service skills to sell products – or, at minimum, understanding these processes/approaches

C. Using knowledge of the differences between agribusiness sales and the general sales industry

7. MONITORING AND IMPROVING BUSINESS PERFORMANCE BY COLLECTING, ANALYZING, AND COMMUNICATING RELEVANT INFORMATION

A. Managing stock inventory levels

B. Discussing defective goods or services with inspection/quality control personnel, users, and vendors to determine the source of the problem and solve it

C. Serving as a go-to information resource for company staff and clients

D. Developing and updating quality assurance programs to make sure final products are of the highest quality possible

8. USING ANALYTICS TO GENERATE SOLUTIONS TO BUSINESS PROBLEMS

A. Assessing how technology can be used to do work more effectively and efficiently than people – and vice-versa

B. Creating, organizing, editing, and analyzing data to solve problems and complete business tasks (for example, creating and using a database, graphing and analyzing production functions, or constructing and analyzing graphs that use cost revenue data to maximize profitability)