

Minnesota PIPELINE Project

Private Investment, Public Education, Labor & Industry Experience

PIPELINE PROJECT
Agriculture Industry Council

Agriculture Council Selected Occupations and Descriptions

Below are the 3 occupations and Descriptions the Agriculture Industry Council selected to begin investigating dual-training models and implementation in Minnesota.

Skilled Mechanic (Agriculture) * Apprenticeship occupation

Source: www.bls.gov and www.maizisandmiller.com

Agriculture equipment mechanics have the experience, training and skills to maintain and repair many different types of agricultural equipment including tractors, combines and a wide range of other machinery. They also know how to diagnose and troubleshoot the large engines in this equipment and the electrical, transmission and hydraulic systems that make it work. Agriculture equipment tills the soil, plants the seeds, applies agrichemicals to facilitate yields and harvests a wide range of crops that enrich our lives. Skilled agriculture equipment mechanics keep this equipment working safely and efficiently year after year. Most agriculture equipment mechanic positions require some travel working on equipment out in the field.

Types of Agricultural Machinery

Soil Cultivation:

Cultivator, Cultipacker, Chisel plow, Harrow, Spike harrow, Drag harrow, Disk harrow, Plough, Power tiller /Rotary tiller / Rototiller, Spading machine, Subsoiler, Two-wheel tractor, Stone Picker

Planting:

Broadcast seeder, Planter (farm implement), Plastic mulch layer, Potato planter, Seed drill, Air seeder, Precision drill, Transplanter, Rice transplanter

Harvesting / Post-Harvest:

Beet harvester, Bean harvester, Cane Harvester, Carrot Puller, Chaser bin, Combine harvester, Conveyor belt, Corn harvester, Cotton picker, Fanning mill, Farm truck, Forage harvester, Gleaner Gravity wagon, Haul out Transporter, Potato digger, Potato harvester, Rice huller, Sickle, Swather

Loading:

Backhoe, Front end loader, Skid-steer loader

Agronomist

Source: <http://education-portal.com> and www.jobsdescriptions.org

Agronomists have varied duties that require them to think critically to solve problems. First and foremost, agronomists experiment and plan studies to improve crop yields. They study a farm's crop production in order to discern the best ways to plant, harvest, and cultivate the plants, regardless of the climate. It is also important for agronomists to develop methods to control weeds and pests to keep crops disease-free.

They use technological processes for sowing crops and the growing of the seedlings of vegetables, fruits, grape vines, etc...They determine ways of cultivating crops on different plots of land, having in consideration the conditions of soil. They make decisions about the plowing, sowing and plant protection, select and procure the seeds, fertilizers and other materials required for plant growth, schedule the plowing and sowing. They manage the exploitation of land resources, prepare laboratory tests for agricultural land and organization of the ground, and determine the fertilization process. They prepare the production plan for the crop plants, record the operative documents, and ensure the coordination with the production of animals

In professional work, the agronomist develop plans for irrigation, draining and soil enrichment, investigate and develop methods to obtain quality products.

They also perform environmental studies to control pests and parasitic plants and to protect soil and water. They study and apply scientific methods to obtain various valuable crops, both qualitatively and quantitatively. They develop and supervise environmental projects, industrial buildings, etc...They also:

- Design and coordinate the necessary testing equipment and agricultural machinery
- Develop plans and projects on cultivation of agricultural areas
- Prepare reports and present scientific papers in his field of specialty
- Determine the technological processes for the planting of crops, etc
- Manage and modify the agro-technical processes and work processes in the plant cultivation
- Determine ways of cultivating crops on different plots of land, as per the ground conditions
- Make decisions on plowing and sowing

Herd Manager - **Bison Herd Manager Apprenticable occupation*

Source: www.onetonline.org

Herd Managers are responsible for overall management of the dairy herd including milking, herd health and breeding. Coordinate and share duties and responsibilities with the assistant herd manager. Make decisions pertaining to day-to-day operation, such as when an animal needs to be bred, treated, culled, etc.; also which animals are candidates for embryo transfer program. Decide when veterinarian or service personnel need to be called; decide when a tank of milk must be dumped. Discuss herd nutrition issues with feed manager. They also:

- Collect and record data on cows, heifers and bulls
- Observe all livestock for signs of illness or distress (several times daily)

- Monitor and adjust environment for cow comfort; schedule bedding
- Monitor maternity area and assist with difficult births
- Monitor and assist with care of fresh cows and newborn calves
- Manage grouping of cows, heifers and bulls in pens
- Keep all animals visibly identified
- Move cows from far-off dry pen to close-up dry pen weekly
- Recommend culling decisions
- Communicate management decisions with owners and managers

Herd Health Management

- Observe cows, heifers and bulls for health problems
- Treat and care for sick animals; record treatments in cow health records
- Schedule and assist with pregnancy checks or other veterinary visits
- Dry off cows weekly
- Maintain mastitis and dry cow treatment programs
- Maintain herd vaccination program
- Maintain and administer hoof trimming program