AGRICULTURAL YOUTH WORK GUIDELINES

SAFETY GUIDELINES FOR YOUTH WORKING IN GARDENS

National Children's Center
for Rural and Agricultural Health and Safety

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GUIDELINES

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Note: The word garden, as used in this booklet, includes community/urban type gardens and gardening activities performed on agritourism operations, farms, and in Community Supported Agriculture (CSA) programs.

BACKGROUND & SIGNIFICANCE

This booklet contains work guidelines that parents and other adults can use to assign age and ability appropriate tasks to youth working in gardens. This booklet begins by describing the importance of using these guidelines to safeguard youth, followed by sections showing how to use the guidelines to assign appropriate tasks and important supplemental information. The remainder of the booklet contains work guidelines related to gardening. The complete sets of agricultural youth work guidelines can be found at cultivatesafety.org/work.

Additional booklets available:

- *Safety Guidelines for Youth Operating Farm Equipment*
- *Safety Guidelines for Youth Working with Animals*

Young children (under age 7) may not be able to work in gardens safely, especially when adults are focused on their own work, rather than supervising a young child. These children are safer in childcare or a supervised safe play area. More information is available at cultivatesafety.org/play.

For more agricultural safety information and access to free resources, contact the

National Children's Center for Rural and Agricultural Health and Safety

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Benefits of Gardening

Gardens of all kinds (home, community, urban school, church, and more) are growing in popularity. Many people, including children and youth, are volunteering in these gardens, and this trend is expected to continue. In addition, youth are commonly hired to assist with gardening chores, such as hoeing pumpkin plants on agritourism operations or planting, weeding and harvesting fruits and vegetables for farms that participate in Community Supported Agriculture (CSA) programs. Gardening offers many opportunities for youth to develop skills, including instilling a good work ethic, teaching responsibility, building character, learning about the life/death cycle, and instilling a passion, love and respect for the land. Gardens can also provide opportunities for education (e.g. learn about nutrition), therapeutic interventions, societal reintegration and/or passing on traditions.

Hazardous Nature of Work

While there are benefits to working in gardens and other agricultural worksites, there are also risks. It is important to know that while gardens may offer a low risk way to introduce children to farming, all gardens – and especially those involving farm equipment such as tractors, rototillers, and skid steers – harbor the same risks and hazards as the farm worksite. Agriculture remains one of the most dangerous worksites in the U.S., with more youth having died working in agriculture since 2009 than in all other industries combined. Contributing to the risk of injury are children and youth participating in gardening who are unfamiliar with the tasks and equipment, who perform work that does not match their abilities, or who underestimate the risks and hazards involved in a task.

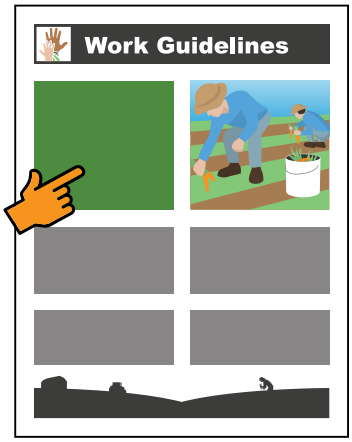
Reducing Risks

To reduce risk of injury, it is important to address the hazards that cause them, especially hazards that pose the highest risk. High-risk hazards are those that frequently cause injuries or result in severe injuries or death. In non-agricultural industries, regulations and work standards indicate appropriate work for both adults and children. These regulations are a key component of reducing injury risks. Standards and regulations in agriculture are different, however, and often do not apply to farms or gardens. Adults may assign jobs based on their past practices, the need for "extra hands" to get the job done, and preferences of the child and/or adult, rather than assessing a youth's ability to perform a task.

The Agricultural Youth Work Guidelines (AYWG) were developed to help adults assign safe and appropriate jobs, thus reducing risk of injury to youth. The AYWG are designed to address both the physical risks and behavioral/decisional risks encountered with young workers. The guidelines assess if youth are able to safely perform tasks such as harvesting produce or pruning plants, and to provide adults with information needed to provide appropriate supervision, address hazards and employ protective strategies.

ASSESSING A CHILD/YOUTH'S ABILITIES

When using the work guidelines, the information in the upper left box of the guideline can be used to assess a youth's ability to perform a job safely. When assigning work to youth, in addition to looking at the requirements of the task, it is important to assess a youth's personality, work style and abilities. Children and teens are not simply "miniature adults". Their physical, cognitive and emotional development is different.



Youth may:

- Like to explore, experiment, and take risks
- Have a limited sense of vulnerability to injury
- Behave impulsively
- Try to "prove" themselves
- Think they can do things safely that they can't
- Be susceptible to peer pressure
- Lack work experience
- Be reluctant to ask questions
- Display enthusiasm that outweighs judgement

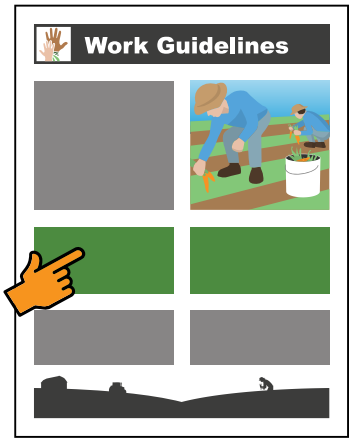
Many of these behaviors/traits are normal for youth and are not easy to change. It's how children and youth act, and it's different than how adults act. For more information on child/youth characteristics and strategies adults can use to address them, see page 5 or visit cultivatesafety.org/child-development.

Once familiar with a youth's abilities, select the agricultural youth work guideline for the task the youth will be performing. Use the content in the box titled "Can youth do this job safely?" to determine if the task is a good match for the youth's abilities. If the youth is able to comply with the items in this box, the task is a good fit.

ADULT RESPONSIBILITIES

The middle boxes on the guideline provides information on adult responsibilities. Safeguarding working youth involves more than just ensuring they are able to safely perform a task. Adults must also minimize hazards and risks in the worksite and employ protective strategies, such as providing personal protective equipment, training and supervision.

Supervision



Youth should always be supervised while performing agricultural work. The Agricultural Youth Work Guidelines contain information on levels of supervision for young workers. While the recommended levels of supervision in these guidelines are based on age, this does not mean that youth in these age categories can always safely perform these tasks. An adult should first determine if the task is a good match for the youth's abilities, and then use these age categories to select the level of supervision needed. Levels of supervision include:

- Constant – an adult is always within sight, sound and reach of a youth
- Intermittent – an adult is out of sight and sound for up to 15 minutes
- Periodic – an adult observes the youth at least every 15-30 minutes

Visit cultivatesafety.org/supervision for more information on supervision. Free training for supervisors of young workers is available in English and Spanish at agsupervisortraining.org

Hazards and Protective Strategies

The bottom boxes in the guideline list common hazards and protective strategies. The AYWG highlight the most common and/or highest risk hazards and related protective strategies associated with the task. However, it is important to understand that these guidelines do not identify all hazards and protective strategies for every circumstance, as the number and types of hazards may vary by farm or worksite. It is also important that adults review worksites prior to youth working in them to address hazards and determine what personal protective equipment is needed. Policies and procedures should be established detailing the personnel, process, and frequency of these worksite reviews.

Communication

The guidelines indicate that youth need to maintain two-way communication between themselves and an adult, which means a communication plan needs to be in place. Youth must be able to contact an adult while they are working in case they have questions, need help, or encounter an emergency situation. This necessitates that youth have some type of communication tool such as a cell phone (with service) or a two-way radio. Importantly, youth must also be trained to only use communication tools under safe conditions, and not allow it to become a hazardous distraction by diverting their attention from their task. Youth may be distracted from their work by activities like texting while driving a tractor or talking on a two-way radio while operating a skid steer.

All farms should have communication plans that include: a) type(s) of communication tools, b) how to use them, c) when to use these tools, d) when not to use them, and e) names of contact person(s). Youth should be fully trained on this plan, including what to do in the event that they cannot reach their assigned contact, and what to do if there is an emergency. For more information on communication plans, including instructions and templates, visit cultivatesafety.org/communication-plan.

Training Children & Youth

Most children and youth respond best to hands-on training when learning new jobs. Demonstrate the job and have youth practice the job under close supervision until they are proficient. Document all training so you know which training a worker had and when refresher training is needed.

What to do:
- Provide a safe workplace
- Identify prohibited equipment/tasks
- Assign supervisors who work well with youth
- Provide personal protective equipment
- Praise positive/safe behaviors
- Model safe behaviors
- Encourage questions
- Set and enforce rules

What to train:
- Doing the job safely
- Recognizing hazards
- Taking precautions
- Using personal protective equipment
- How to handle problems
- Communication procedures
- Emergency procedures
- Sources for more information

When to train:
- First time doing task
- With every new task/tool
- With any new hazard
- After an incident
- Periodically for review

How to train:
- Explain the task
- Demonstrate the task
- Ask youth to repeat instructions
- Watch youth perform task, praise success and correct mistakes
- Answer all questions
- Keep sessions short
- Supervise closely until proficient

Show sensitivity:
- Learn about youth's culture
- Demonstrate respect
- Be patient
- Avoid value judgements
- Use sensitive language
- Accept lack of direct eye contact
- Use culturally appropriate materials
- Praise more often than criticizing

HIRED YOUTH

Youth hired to work in large gardens, on agritourism operations, in CSAs or on farms may be subject to state or federal regulations governing what tasks they can do. Federal regulations contain significant differences between work permitted for hired youth in agriculture and non-agricultural worksites.

When determining if youth are subject to federal regulations, supervising adults need to consider several issues. It is important to note that on family operations, parental rights and responsibilities prevail. If a child is employed by his/her parent or by a person standing in place of the parent on a large garden, CSA or a farm owned or operated by that parent/parental substitute, then federal regulations do not apply. One caveat: while federal regulations may not apply in certain situations, parents and supervisors should check for relevant state regulations. Regardless of whether state or federal regulations apply, parents should determine work assignments appropriate for the youth's age and ability. Visit cultivatesafety.org/hired-youth for more information about hired youth.

Federal Regulations

Federal child labor laws were enacted to set minimum standards to help ensure young people participate in work that is safe and does not jeopardize their health, well-being, or education. The information below provides a brief overview of these laws for the agricultural worksite.

Fair Labor Standards Act (FSLA)

- Minimum age for most employment outside of school hours is 14 years
- Youth 12 or 13 years old may work during non-school hours with a parent or with consent from a parent/guardian
- Youth under 12 may be employed during non-school hours with parental consent only on a farm where employees are exempt from the Federal minimum wage provisions
- Hazardous duties, known as the Hazardous Orders, are prohibited for youth under 16 years of age
- Minimum wage laws may apply; typically overtime pay is not required
- In addition to family farm (parental) exemptions, there are also limited exemptions for student learners and vocational agriculture training programs
- Migrant and seasonal agricultural workers are subject to the same restrictions and entitled to the same protections as other farm workers
- There are specific recordkeeping requirements for young workers, including name, residence, date of birth and written parental consent (if required)

For more information on federal regulations, visit dol.gov/agencies/whd/child-labor/agriculture.

State Regulations

Some states have additional or more restrictive regulations. State-specific child labor information is available at dol.gov/agencies/whd/state/child-labor/agriculture.

Model Policy: Youth Employment in Agriculture

This model policy includes voluntary guidelines for hired youth farmworkers. Employers, employer organizations, youth employment programs, and health and safety organizations are encouraged to adapt all or parts of this policy. Possible adaptations include adding logos and emphasizing certain jobs specific to your organization. Parents may also find these general guidelines to be useful. More information is available at marshfieldresearch.org/nccrahs/model-policy-youth-employment-in-agriculture.

CHILD DEVELOPMENT AND WORKING IN GARDENS

Children are not simply “miniature adults”. As youth grow through childhood, adolescence, and young adulthood, they gain physical strength and size but also stronger thinking, processing and decision-making skills. These abilities develop at different rates for different children, including within the same family. For example, one 14-year-old may be relatively mature and accept responsibility well, while the next may be more of a risk-taker, needing closer adult supervision until they grow older. Similarly, one 7-year-old may be physically big and strong but struggle to consistently understand and follow safety rules while another 7-year-old may be very good at following rules but lack the physical strength for specific tasks. This variation in development is normal. Combined with the hazardous nature of some gardening and agricultural tasks however, it makes it unwise to assign work based only on the age or size of the youth. Instead, adults must consider the requirements of the task and the youth’s abilities and limitations, and then assign work carefully, always ensuring the youth has the skills and ability to complete the task safely. The chart below will help you assign work appropriate for a youth’s age and abilities.

TOPIC	CHARACTERISTICS	SAFETY STRATEGIES FOR ADULTS
Modeling	Youth learn from watching adults and copy what they see.	Model safe behavior. Youth may copy what you do rather than following what you say.
Teaching	Practice and repetition help youth learn new tasks.	Teach first, let youth try the task, then provide positive and constructive feedback. Be patient as youth learn.
Attention Span	Attention improves with age. Most youth don’t develop adult-level attention spans until their early 20s.	Assign short tasks, provide frequent breaks and change tasks often.
Decision Making	Youth get better and faster at decisions as they develop, but even older adolescents may make risky, impulsive decisions.	Don’t put youth in situations where bad decisions can cause injury.
Transferred Learning	Youth may not transfer learning from one task to another.	Don’t assume youth know how to do a new task. Teach them new tasks and ensure competency.
Supervision	Because of youth’s underdeveloped abilities, they need adult supervision to help prevent injuries.	The type/level of supervision needed depends on a youth’s age, ability and the task. Visit supervision and work guidelines for more information.
Rules	Youth benefit from rules that are known, understood and obeyed.	Set and enforce rules consistently. Explain reasons for rules and follow the rules yourself. Youth notice if you violate rules and may copy risky behavior.
Praise	Praise positive and safe behaviors. Behavior that is reinforced will likely be repeated.	Tell youth when they do something safely. Use a proud and congratulatory tone.
Strength & Stamina	Young children have less strength/stamina than older youth. They may try things beyond their ability.	Assign tasks involving smaller loads and shorter distances to younger children, adjusting as they mature. Provide breaks.
Confidence	Youth may feel overconfident - even invincible - leading to risk-taking.	Set and enforce rules. Monitor and supervise.
Self-identity	Many youth value how they look and how others view them. They may want to impress peers. This can lead to hairstyles and outfits that create risk.	Encourage independence and self-identity, but monitor hairstyles and clothing. Enforce safety rules and ensure personal protection is not skipped in favor of appearance.
Judgment & Risk-Taking	Children may misjudge risk. They may think they can do more than they can.	Safeguard the environment and provide supervision. Assume children might over-estimate their abilities and take risks.
Safeguards	Youth may skirt safeguards like equipment guards and shields and avoid wearing gloves, goggles, boots, and other personal protective equipment.	Use safety equipment yourself. Don’t modify safety devices or remove guards or shields. Wear protective equipment. Supervise and prevent youth from taking shortcuts.

Developed by David Schwebel, PhD, Child Development Specialist, University of Alabama at Birmingham
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ALWAYS

Always have adult supervision when young children and youth are present

Always be patient with young workers, repeating instructions as needed

Always encourage children and youth to ask questions and learn new things

Always ensure everyone uses sunscreen and weather-appropriate clothing

Always ensure everyone is trained in their assigned jobs

Always know the location of bystanders before operating equipment

Always verify adults perform the safety-related tasks for which they are responsible

Always have a communication plan in place

Always provide breaks in shaded areas

Always ensure access to drinking water and handwashing and restroom facilities

Always ensure everyone knows what to do in the event of an injury or other emergency

NEVER

Never allow extra riders on tractors, lawn mowers, or other equipment

Never allow children and youth to ride in the bed of a truck, UTV or on a trailer

Never allow anyone to climb or ride on motorized walk-behind equipment

Never use equipment for anything other than its intended purpose

Never allow children or youth to work on tasks that are beyond their ability

Never allow children or youth to do a task alone until they demonstrate proficiency

Never assume that children or youth know how to perform a job

Never refuse to answer questions, even when pressed for time

Never allow children to interact with wildlife or unfamiliar/unpredictable animals

Never allow children or youth to be exposed to pesticides

Gardens offer a variety of opportunities for children and youth. They can be a safe place to learn about plants and farming, an opportunity to develop work skills and experience, and they can provide income. What young people get from their garden experiences depends on adults. Adults, not children or youth, should decide which tasks young workers will perform, what equipment they are exposed to, what training they receive, and how they are supervised. The safety of children and youth is **always** the responsibility of the adults.

ADDITIONAL CONSIDERATIONS

Emergency Preparedness:

Even if a garden has a comprehensive safety strategy, there is always the possibility of a serious injury or emergency. This makes emergency planning important, as well as ensuring workers are available and trained to respond appropriately until emergency service personnel arrive. Written emergency plans, policies and procedures should be developed, and all workers should know their roles in the event of an emergency.

Signs:

Signs are an important method of communicating information to workers. Signs can be posted to detail proper procedures (e.g., handwashing sign), to designate areas where children/visitors are not allowed (e.g., Keep Out sign), to educate about hazards (e.g., Electrical Hazard sign), or to indicate that personal protective equipment is required (e.g., Eye Protection Required sign).

Equipment & Building Maintenance:

All equipment and buildings need regular maintenance, and an adult should check them before each use. Ensure equipment runs well and has all guards and safety features in place. Buildings should be adequately ventilated, clean, and well maintained.

Handwashing and Restrooms:

Proper hand washing and adequate restroom facilities are important hygienic considerations. Proper hand washing will eliminate dust and dirt as well as contaminants, allergens, and soil pathogens that could lead to illness.

Traffic & Parking:

Inadequate parking and poor pedestrian traffic flow can lead to serious injury or death, especially when children are present. Children often have trouble judging the speed and distance of vehicles and are easily distracted. Gardens should be designed with an adequate amount of parking and safe walkways. Traffic must move slowly and parking areas should be separated from the garden with a fence or other barrier.

Other Information:

Policies, procedures, and checklists are recommended to safely and efficiently operate a garden. It is also important to ensure public gardens have adequate insurance coverage.

The Integrating Safety into Agritourism website (safeagritourism.org) has information and resources on insurance and provides information on policies and procedures, as well as access to free templates and checklists.

MORE RESOURCES

Integrating Safety into Agritourism (safeagritourism.org) – Designed for owners, managers and supervisors of agritourism operations, this website provides information on hazards and safety strategies and access to checklists and resources. Topics include fencing and barriers, traffic and parking, walkways and structures, insurance and much more.

Cultivate Safety (cultivatesafety.org) – Designed for farmers, parents and supervisors, this website provides information on agricultural safety and health, including

- **Agricultural Youth Work Guidelines**
- **Online Tools for Agricultural Health and Safety**
- **Childhood Agricultural Safety Network (CASN)**

Cultivate Safety Resource Library (cultivatesafety.org/resources) – Search this library for access to hundreds of free agricultural safety and health resources, including signs, guidelines, policies and more. Examples of popular resources include:

- **Child/Youth Agricultural Safety Brochure**
- **Child/Youth Safety Checklist**
- **Fencing and Barriers Guidelines**

U.S. Department of Labor: Youth Rules (youthrules.dol.gov) – Provides access to information on federal and state child labor laws, teen work stories, news and other resources.

National Institute for Occupational Safety & Health (cdc.gov/niosh/topics/youth) – Includes injury and fatality information and statistics for young workers, as well as access to health and safety resources, project information and related topics.

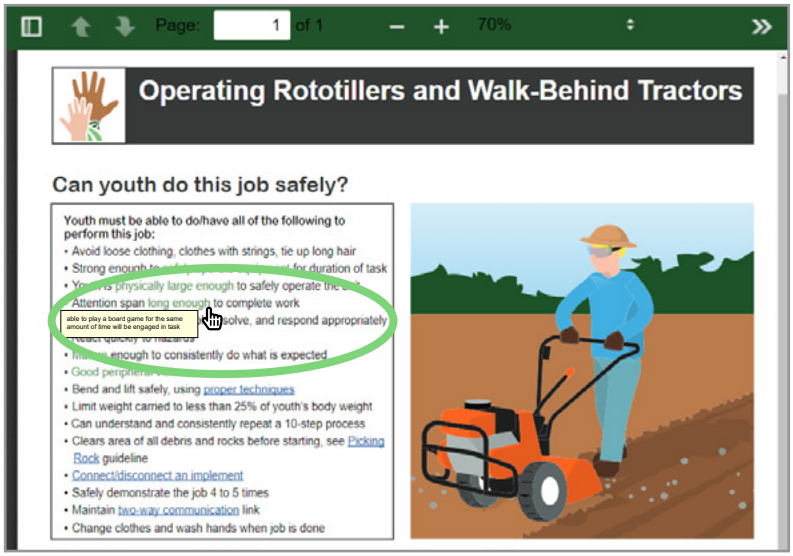
Safety in Youth for Agriculture (ag-safety.extension.org/safety-in-agriculture-for-youth)

- **SAY Clearinghouse** – Consists of two different types of educational products: formal curricula and other supporting resources; it also provides their alignment to Agriculture, Food, and Natural Resources (AFNR) Career Cluster Content Standards related to agricultural safety and health.
- **SAY Belief Statements** – The belief statements and guiding principles were developed to encourage parents, employers, agricultural organizations, educators, safety and health professionals, healthcare professionals, representatives of underserved populations, and other interested stakeholders to promote safety and health for youth working in agriculture.

National Safe Tractor and Machinery Operation Program (extension.psu.edu/national-safe-tractor-and-machinery-operation-program-manual) – Provides information on this program for youth ages 14-15, which covers general agricultural safety, tractor and equipment operation and highway transportation.

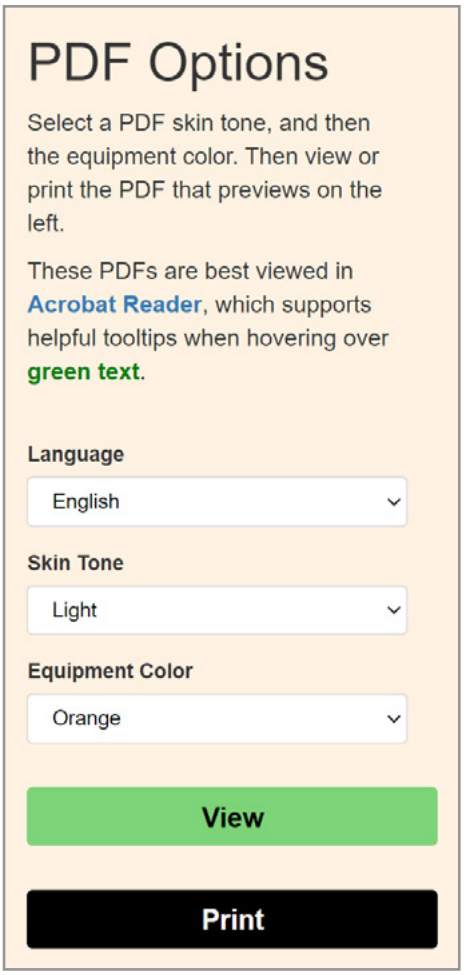
YOUTH WORK GUIDELINES

The following pages contain the agricultural youth work guidelines associated with gardening, including related tasks. For example, ATVs and UTVs can be used to transport materials and skid steers are sometimes used with forks to transport large containers of product. And while large farm tractors are not commonly used in gardens, smaller, utility type tractors are sometimes used.



Tool Tips:

Some of the guidelines contain green text which have tool tips that appear when you hover over the text when viewed in digital format (either online or as a PDF).



Multiple Formats:

In addition, when viewing these guidelines on the Cultivate Safety website (cultivatesafety.org/work), the guidelines are available in multiple formats, including interactive, read, and print/view.

When accessing guidelines in the "print/view" format online, you can select from different languages, skin tones and equipment colors to customize the guideline before you view, print or download the guideline.

Working Outdoors

Can youth do this job safely?

Youth must be able to do/have all of the following to perform this job safely:

- Avoid loose clothing, clothes with strings, tie up long hair
- Wear weather appropriate clothing
  - Hot weather: lightweight, light colored
  - Cold weather: layers of warm clothes and outerwear, hat, gloves and boots
  - Sun-safe hat (minimum 4" brim)
- Know the signs of heat and cold related illnesses
- Drink enough fluids to stay hydrated
- Stay aware of changing weather conditions
- Know what to do in the event of an emergency
- Maintain two-way communication link

Adult Responsibilities

- Provide 10 minute break every hour (more frequently for younger children)
- Provide appropriate training
- Check heat/cold index to verify safe temperatures for working outdoors
- Ensure re-entry standards for pesticides, herbicides, fungicides and fertilizers are followed
- Verify youth is free from insect allergies or has remedies for allergies
- Ensure bathroom/handwashing facilities are available
- Have drinking water available

Supervision

- Supervise constantly until youth demonstrates mastery of task
- Check on youth; frequency* depends on:
  - Age of youth
  - Type of job
  - Worksite hazards
- Immediately correct unsafe behaviors
- Ask for questions

**See work guideline for specific job for guidance and more information*

Hazards

Heat/Cold Stress | Chemicals | Severe Weather | Bugs or Insects | Drowning

Protective Strategies

Sun Protection | Drink Fluids (Hydrate) | Wash Hands | Insect/Bug Repellent | Gloves (if needed)

www.cultivatesafety.org

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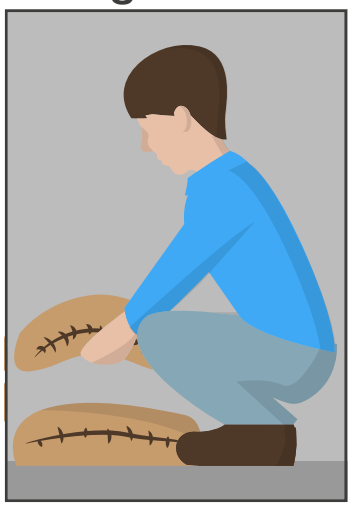
Bending, Lifting and Climbing

Visit https://cultivatesafety.org/bending-lifting-and-climbing/ for videos

Bending

- Avoid loose clothing, clothes with strings, tie up long hair
- Perform warm-up exercises
- Bend safely, using these steps:
  1. Maintain good back posture; raise and lower body with legs
  2. Stand with feet shoulder-width apart, one foot slightly in front of the other
  3. Keep back straight, hold in stomach muscles
  4. Move down to a squatting position using your leg muscles
  5. Shift from leg to leg when squatting, keeping body balanced
  6. Keep your body straight; turn feet and arms, not back, to reach for objects
  7. Do not stay in any one position for more than a few minutes
  8. If lifting is included in task, use proper lifting techniques

Lifting



- Avoid loose clothing, clothes with strings, tie up long hair
- Perform warm-up exercises
- Determine object weighs less than 25% of body weight; can carry it without straining
- Access object without obstruction
- Lift objects safely, using these steps
  1. Stand close to the object
  2. Spread feet wide to straddle the object
  3. Squat, bending knees and hips
  4. Keep head up and your back straight
  5. Hold in stomach muscles
  6. Lift using leg muscles, slowly and steadily
  7. Keep the load close to body
  8. Turn feet, not back, in the direction you are going

Climbing

- Avoid loose clothing, clothes with strings, tie up long hair
- Perform warm-up exercises
- Climb safely, using these steps
  1. Check that ladder is safely set
  2. Grasp alternate rungs and take first step
  3. Pause and think about whether or not the ladder feels stable
  4. Climb up, keeping feet and hips within sides of ladder frame
  5. Always maintain three contact points, for example, two hands and one foot
  6. Keep head up and back straight
  7. Concentrate on the climbing process
  8. Do not climb beyond the third rung from the top

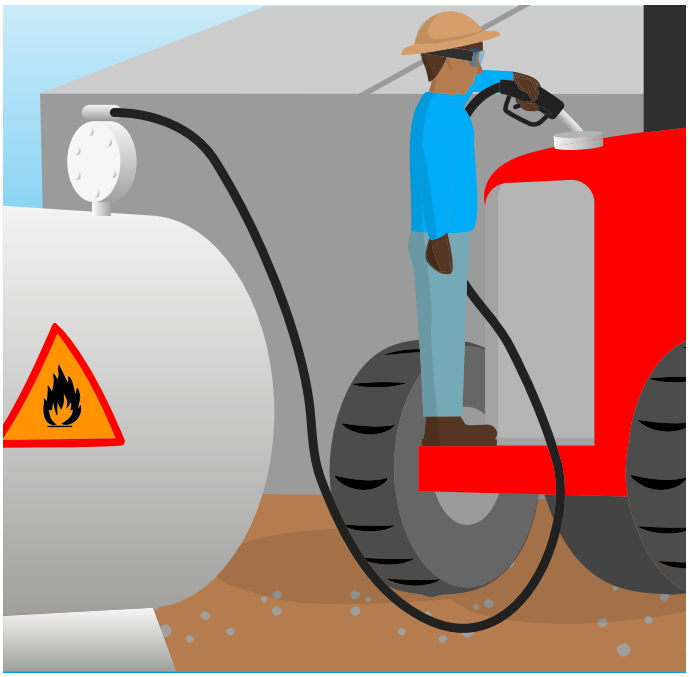
https://doi.org/10.21636/nfmc.nccrahs.youthwork.bendliftclimb.fs.2017

Refueling Equipment

Can youth do this job safely?

Youth must be able to do/have all of the following to perform this job safely:

- Avoid loose clothing, clothes with strings, tie up long hair
- Read, understand, and follow the operator's manual
- Allow engine to cool and turn off cell phone before refueling
- No smoking or open flames in worksite
- Safely drive a tractor, self-propelled equipment, ATV, UTV or other equipment
- Mount and dismount equipment facing the machine and using 3 points of contact
- Physically large enough to reach fuel nozzle and controls
- Check for/avoid people and obstacles in the worksite
- Recognize a hazard, problem solve, and respond appropriately
- React quickly to hazards
- Mature enough to consistently do what is expected
- Think through actions and consequences before acting
- Safely demonstrate the job 4 to 5 times
- Maintain two-way communication link



Adult Responsibilities

- Comply with the working outdoors guideline
- Provide approved safety fuel containers of appropriate color for fuel type and label with contents
- Assign second person to assist if climbing on equipment
- Ensure work area is free from as many hazards as possible
- Educate youth on avoiding/addressing remaining hazards
- Ensure equipment is mechanically sound with all safety features in place
- Demonstrate how to safely refuel tanks
- Provide appropriate training, including proper lifting techniques
- Train youth to call adult in event of equipment malfunction

Supervision

Note: Ensure tractor is sized appropriately for youth. Youth must be 16+ years to drive an articulated tractor. See Tractor Operations Chart for guidance.

14-15 yrs	Nearly constant supervision progressing to intermittent
16+ yrs	Intermittent supervision progressing to periodic

Hazards

Fire/Explosion | Weight | Chemicals | Run-over | Collision

Protective Strategies

Gloves | Non-skid shoes | Eye protection | Handwashing | Operator's manual

www.cultivatesafety.org

https://doi.org/10.21636/nfmc.nccrahs.youthwork.refuelingtanks.g.2018

Picking Rock

Can youth do this job safely?

Youth must be able to do/have all of the following to perform this job safely:

- Avoid loose clothing, clothes with strings, tie up long hair
- Bend safely using proper bending technique
- Lift object using proper lifting technique
- Physical stamina to perform job for 50 minutes (12+ years)
- Carry load the required distance without straining
- Good peripheral vision
- Appropriate attention span
- Safely demonstrate the job 4 to 5 times
- Maintain two-way communication link

Adult Responsibilities

- Comply with the working outdoors guideline
- Ensure safe transport to work area
- Ensure work area is free from as many hazards as possible
- Educate youth on avoiding/addressing remaining hazards
- Ensure objects to be lifted weigh less than 25% of youth's body weight
- Provide frequent stretch breaks
- Provide appropriate training
- Demonstrate how to pick rocks safely
- Position workers to avoid trajectory of rocks and path of moving vehicles

Supervision

7-9 yrs	Constant supervision (*limit job to 15 minutes*)
10-11 yrs	Nearly constant supervision (*limit job to 20 minutes*)
12-15 yrs	Intermittent supervision
16+ yrs	Periodic supervision

Hazards

Weight | Repetitive motion | Slippery/ uneven surface | Runover | Sun/Heat

Protective Strategies

Steel toed non-skid shoes | Gloves | Handwashing | Sun protection | Communication tools

www.cultivatesafety.org

https://doi.org/10.21636/nfmc.nccrahs.youthwork.pickingrocks.g.2017

Composting

Can youth do this job safely?

Youth must be able to do/have all of the following to perform this job safely:

- Avoid loose clothing, clothes with strings, tie up long hair
- Comply with the working outdoors guideline
- If using, comply with the operating a skid steer, operating a tractor and/or using a front-end loader guidelines
- Bend safely, using proper bending technique
- Lift safely, using proper lifting technique
- Limit weight of objects carried to less than 25% of body weight
- Carry load required distance without straining
- Physical stamina to perform job
- Coordination needed to manipulate tools
- Attention span long enough to complete work
- Recognize a hazard, problem solve, and respond appropriately
- React quickly to hazards
- Safely demonstrate the job 4 to 5 times
- Maintain two-way communication link

Adult Responsibilities

- Provide safe transport to worksite
- Ensure work area is as free from as many hazards as possible
- Educate youth on avoiding/addressing remaining hazards
- Provide youth with 10 minute break every hour and frequent stretch breaks
- Check that tools are properly sized for youth
- Fit youth for respirator if needed and demonstrate proper use
- Provide appropriate training
- Demonstrate how to safely compost materials
- If needed, operate wood chipper (youth should not operate wood chippers)

Supervision

10-11 yrs	Constant supervision progressing to intermittent (Limit job to 20 minutes and no tasks that involve sharp objects)
12-13 yrs	Constant supervision progressing to intermittent
14-15 yrs	Intermittent supervision progressing to periodic
16+ years	Periodic supervision

Hazards

Slippery/ uneven surface | Weight | Repetitive motion | Sharp objects | Dust/molds

Protective Strategies

Non-skid shoes | Gloves | Handwashing | Eye protection | Respiratory protection (if needed)

www.cultivatesafety.org

https://doi.org/10.21636/nfmc.nccrahs.youthwork.composting.g.2018

Hand-Harvesting
(vegetables and ground fruit)

Can youth do this job safely?

Youth must be able to do/have all of the following to perform this job safely:

- Bend safely, using proper bending technique
- Lift safely, using proper lifting technique
- Carry container to collection area without straining
- Physical stamina to perform job for up to 50 minutes (12+ yrs)
- Attention span long enough to complete work
- Good hand-eye coordination
- Think through actions and consequences before acting
- Received training on safe use of cutting tools (12+ yrs)
- Safely demonstrate the job 4 to 5 times
- Maintain two-way communication link

Adult Responsibilities

- Comply with the working outdoors guideline
- Provide safe transport to the field
- Confirm re-entry standards are followed
- Ensure work area is free from as many hazards as possible
- Educate youth on avoiding/addressing remaining hazards
- Adjust tools and station to reduce bending
- Provide appropriate training
- Provide youth with frequent stretch breaks
- Provide properly sized cutting tools for youth (12+ yrs)
- Demonstrate how to safely hand-harvest

Supervision

Note: Youth under 12 years old should not use cutting tools

7-9 yrs	Constant supervision (Limit work to 15 minutes)
10-11 yrs	Intermittent supervision (Limit work to 20 minutes)
12-13 yrs	Constant supervision progressing to intermittent
14-15 yrs	Intermittent supervision progressing to periodic
16+ yrs	Periodic supervision

Hazards

Slippery/ uneven surfaces | Repetitive motion | Chemicals | Sharp objects | Weight

Protective Strategies

Non-skid shoes | Gloves (if needed) | Handwashing | Sun protection | Communication tools

www.cultivatesafety.org

https://doi.org/10.21636/nfmc.nccrahs.youthwork.harvesting.g.2017

Hand Weeding

Can youth do this job safely?

Youth must be able to do/have all of the following to perform this job safely:

- Avoid loose clothing, clothes with strings, tie up long hair
- Wear long pants and long sleeve shirts made of breathable materials
- Bend safely using proper bending technique
- Lift safely using proper lifting technique
- Carry containers required distance without straining
- Physical stamina to perform job for up to 50 minutes (12+ yrs)
- Attention span long enough to complete work
- Received training on safe use of cutting tools (12+ yrs)
- Maintain two-way communication link
- Safely demonstrate the job 4 to 5 times

Adult Responsibilities

- Comply with the working outdoors guideline
- Provide safe transport to the field
- Confirm re-entry standards are followed
- Ensure work area is free from as many hazards as possible
- Educate youth on avoiding/addressing remaining hazards
- Provide appropriate training on the use of cutting/hoeing tools
- Ensure youth limits weight of load lifted to less than 25% of body weight
- Ensure cutting/hoeing tools properly sized to youth (12+ yrs)
- Demonstrate how to hand weed safely

Supervision

Note: Youth under 12 years old should not use cutting tools

7-9 yrs	Constant supervision (Limit work to 15 minutes)
10-11 yrs	Constant supervision (Limit work to 30 minutes)
12-13 yrs	Constant supervision progressing to intermittent
14-15 yrs	Intermittent supervision progressing to periodic
16+ yrs	Periodic supervision

Hazards

Slippery/ uneven surfaces | Repetitive motion | Chemicals | Sharp objects | Sun/heat

Protective Strategies

Non-skid shoes | Gloves | Handwashing | Sun protection | Insect repellent

www.cultivatesafety.org

https://doi.org/10.21636/nfmc.nccrahs.youthwork.handweeding.g.2018

Harvesting Tree Fruit

Can youth do this job safely?

Youth must be able to do/have all of the following to perform this job safely:

- Avoid loose clothing, clothes with strings, tie up long hair
- Bend, climb, and lift objects safely, using proper technique
- Carry load the required distance without straining
- Understand how to lift and maneuver awkward objects, like ladders
- Balance on a two-step ladder while turning and stretching
- Physical stamina to perform job for 50 minutes
- Think through actions and consequences before acting
- Mature enough to consistently do what is expected
- Recognize a hazard, problem solve, and respond appropriately
- React quickly to hazards
- Safely demonstrate the job 4 to 5 times
- Maintain two-way communication link
- Wash hands after job is completed

Adult Responsibilities

- Comply with the working outdoors guideline
- Ensure re-entry standards for pesticides, herbicides, fungicides and fertilizers are followed
- Ensure work area is free from as many hazards as possible
- Educate youth on avoiding/addressing remaining hazards
- Provide safe transport to and from the work area
- Ensure ladder/climbing structure is stable and safe
- Ensure objects lifted weigh less than 25% of youth's body weight
- Provide appropriate training
- Demonstrate how to safely harvest tree fruit

Supervision

16+ years	Intermittent supervision progressing to periodic

Hazards

Slippery/ uneven surfaces | Repetitive motion | Chemicals | Height | Weight

Protective Strategies

Non-skid shoes | Gloves | Handwashing | Eye protection | Sun protection

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https://doi.org/10.21636/nfmc.nccrahs.youthwork.harvestfruit.g.2018

Pruning Dwarf Fruit and Nut Trees

Can youth do this job safely?

Youth must be able to do/have all of the following to perform this job safely:

- Avoid loose clothing, clothes with strings, tie up long hair
- Climb safely, using proper climbing technique
- Mature enough to consistently do what is expected
- Think through actions and consequences before acting
- Attention span long enough to complete work
- Physical stamina to perform job for 50 minutes
- Safely demonstrate job 4-5 times
- Maintain two-way communication link
- Wash hands when job is finished

Adult Responsibilities

- Comply with the working outdoors guideline
- Provide safe transport to the work area
- Ensure re-entry standards are followed
- Confirm youth is free of insect allergies or has remedy available
- Ensure work area is free from as many hazards as possible
- Educate youth on avoiding/addressing remaining hazards
- Ensure cutting tools are properly sized for youth
- Provide appropriate training on the safe use of cutting tools
- Demonstrate how to safely prune fruit and nut trees

Supervision

If climbing a ladder:

12-13 yrs	Constant supervision
14-15 yrs	Constant supervision progressing to intermittent
16+ yrs	Intermittent supervision progressing to periodic

Working from the ground:

12-13 yrs	Constant supervision progressing to intermittent
14-15 yrs	Intermittent supervision progressing to periodic
16+ yrs	Periodic supervision

Hazards

Slippery/ uneven surfaces | Repetitive motion | Chemicals | Sharp edges | Height

Protective Strategies

Non-skid shoes | Gloves | Eye protection | Handwashing | Sun protection

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https://doi.org/10.21636/nfmc.nccrahs.youthwork.pruningfruittrees.g.2018

Pruning Vines

Can youth do this job safely?

Youth must be able to do/have all of the following to perform this job safely:

- Avoid loose clothing, clothes with strings, tie up long hair
- Wear long pants and long sleeve shirt made of breathable materials
- Mature enough to consistently do what is expected
- Attention span long enough to complete work
- Physical stamina to perform job for 50 minutes
- Maintain two-way communication link
- Safely demonstrate job 4-5 times

Adult Responsibilities

- Comply with the working outdoors guideline
- Provide safe transport to the work area
- Confirm re-entry standards are followed
- Ensure work area is free from as many hazards as possible
- Educate youth on avoiding/addressing remaining hazards
- Ensure cutting tools are properly sized to youth
- Provide appropriate training, including the safe use of cutting tools
- Demonstrate how to safely prune vines
- Ensure youth washes hands after job

Supervision

12-13 yrs	Constant supervision progressing to intermittent
14-15 yrs	Intermittent supervision progressing to periodic
16+ yrs	Periodic supervision

Hazards

Slippery/ uneven surfaces | Repetitive motion | Chemicals | Sharp objects | Insects

Protective Strategies

Non-skid shoes | Gloves | Eye protection | Handwashing | Insect repellent

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https://doi.org/10.21636/nfmc.nccrahs.youthwork.pruningvines.g.2018

Operating Rototillers and Walk-Behind Tractors

Can youth do this job safely?

Youth must be able to do/have all of the following to perform this job:

- Avoid loose clothing, clothes with strings, tie up long hair
- Strong enough to safely operate equipment for duration of task
- Youth is physically large enough to safely operate the unit
- Attention span long enough to complete work
- Recognize a hazard, problem solve, and respond appropriately
- React quickly to hazards
- Mature enough to consistently do what is expected
- Good peripheral vision
- Bend and lift safely, using proper techniques
- Limit weight carried to less than 25% of youth's body weight
- Can understand and consistently repeat a 10-step process
- Clears area of all debris and rocks before starting, see Picking Rock guideline
- Connect/disconnect an implement
- Safely demonstrate the job 4 to 5 times
- Maintain two-way communication link
- Change clothes and wash hands when job is done

Adult Responsibilities

- Comply with the working outdoors guideline
- Ensure no underground utility lines if digging into soil
- Ensure equipment is mechanically sound with all safety features in place
- Provide safe transport to worksite
- Ensure appropriate training
- Demonstrate how to safely operate equipment
- Monitor youth for fatigue while operating equipment
- Ensure work area is free from as many hazards as possible
- Educate youth on avoiding/addressing remaining hazards
- Train youth to call an adult if equipment malfunctions

Supervision

Note: Youth should begin with smaller rototillers (e.g. Mantis) and progress to larger rototillers and walk-behind tractors as age/abilities allow)

12-13	Constant supervision progressing to intermittent
14-15	Intermittent supervision
16+	Intermittent supervision progressing to periodic

Hazards

Entanglement | Sharp objects | Repetitive motion | Thermal burns from hot components | Slippery/ uneven surface

Protective Strategies

Gloves | Steel-toed non-skid shoes | Eye protection | Hearing protection (as needed) | Operator's manual

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https://doi.org/10.21636/nfmc.nccrahs.youthwork.rototillers.g.2018

Working in a Greenhouse or Hoop House

Can youth do this job safely?

Youth must be able to do/have all of the following to perform this job safely:

- Bend, lift and climb safely, using proper techniques
- Limit weight carried to less than 25% of youth's body weight
- Carry materials the required distance without straining
- Attention span long enough to complete work
- Recognize a hazard, problem solve, and respond appropriately
- React quickly to hazards
- Good eye-hand coordination
- Think through actions and consequences before acting
- Ensure work area is free of debris and other tripping hazards
- Trained on safe use of cutting tools (12+ years old)
- Due to similar working conditions, comply with working outdoors guideline
- Comply with Hand Weeding and Hand Harvesting guidelines
- If using, comply with Rototillers & Walk-behind Tractor guideline
- Maintain a two-way communication link
- Safely demonstrate job 4- 5 times
- Change clothes and wash hands when job is finished

Adult Responsibilities

- Provide safe transport to the worksite
- Confirm re-entry standards are followed
- Provide appropriate training
- Verify proper ventilation of structure
- Ensure work area is free from as many hazards as possible
- Educate youth on avoiding/addressing remaining hazards
- Provide youth with frequent stretch breaks and monitor fatigue
- Provide a 10 minute break every hour or more often if needed
- Check all cutting tools are properly sized for youth (12+ years)
- Ensure youth under 14 years old do not work from ladders
- Demonstrate how to work safely in a greenhouse/hoop house

Supervision

Note: Youth under 12 years old should not use cutting tools/ sharp objects, youth under 14 should not work from ladders

7-9 years	Constant supervision (limit job to 15 minutes)
10-11 years	Nearly constant supervision (limit job to 20 minutes)
12-13 years	Constant supervision progressing to intermittent
14-15 years	Intermittent supervision progressing to periodic
16+ years	Periodic supervision

Hazards

Pinch/crush | Repetitive motion | Chemicals | Sharp objects | Dust/debris

Protective Strategies

Non-skid shoes | Gloves | Handwashing | Eye protection | Drink fluids (hydrate)

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https://doi.org/10.21636/nfmc.nccrahs.youthwork.greenhouse.g.2018

Operating a Lawn Mower
(push mower and riding mower)

Can youth do this job safely?

Youth must be able to do/have all of the following to perform this job safely:

- Avoid loose clothing, clothes with strings, tie up long hair
- Check and clear area of debris in path of mower
- Stay focused on task for up to 50 minutes
- Recognize a hazard, problem solve, and respond appropriately
- React quickly to hazards
- Mature enough to consistently do what is expected
- Think through actions and consequences before acting
- Good peripheral vision
- Reach and operate controls when standing behind push mower
- Strength to safely maneuver push mower
- Reach and repeatedly operate controls of riding mower without straining when seated and wearing seatbelt
- Use hands and feet simultaneously
- Safely demonstrate the job 4 to 5 times
- Comply with the working outdoors guideline
- Maintain two-way communication link

Adult Responsibilities

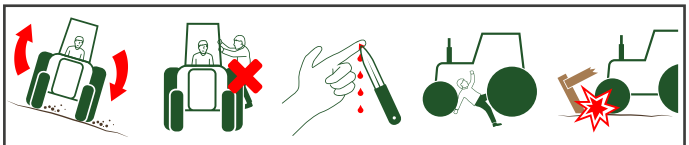
- Ensure mower is mechanically sound with safety features in place
- Verify area is clear of debris before mowing
- Ensure youth do not operate mower after dark or in bad weather
- Train youth to operate riding mower at low speed and on level ground
- Educate youth to mount riding mower using 3 points of contact
- Ensure work area is free from as many hazards as possible
- Educate youth on avoiding/addressing remaining hazards
- Demonstrate how to safely operate a lawn mower
- Provide appropriate training
- Train youth to call an adult if equipment malfunctions

Supervision

Note: Ensure riding mower is sized appropriately for youth. See Tractor Operations Chart for guidance.

12-13 yrs	Constant supervision progressing to periodic (no riding lawn mowers)
14-15 yrs	Intermittent supervision progressing to periodic
16+ yrs	Periodic supervision

Hazards



Rollover--rider Tip over--push | Extra riders | Sharp objects/ entanglement (mower blade) | Run-over | Collision

Protective Strategies

Non-skid shoes | Hearing protection | Eye protection | Operator's manual | ROPS and seatbelt (if present)

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https://doi.org/10.21636/nfmc.nccrahs.youthwork.lawnmowers.g.2018

Operating a Skid Steer

Can youth do this job safely?

Youth must be able to do/have all of the following to perform this job safely:

- Avoid loose clothing, clothes with strings, tie up long hair
- Reach and operate controls while wearing a seatbelt
- Good peripheral vision
- Use hands and feet simultaneously
- Understand and consistently repeat a 10-step process
- Recognize a hazard, problem solve, and respond appropriately
- React quickly to hazards
- Mature enough to consistently do what is expected
- Think through actions and consequences before acting
- Safely demonstrate the job 4 to 5 times
- Maintain two-way communication link

Adult Responsibilities

- Comply with working outdoors guideline
- Ensure skid steer is mechanically sound and safety features are in place
- Demonstrate how to safely operate a skid steer
- Provide appropriate training
- Educate youth to mount skid steer using 3 points of contact
- Ensure youth does not operate skid steer after dark or in bad weather
- Ensure work area is free from as many hazards as possible
- Educate youth on avoiding/addressing remaining hazards
- Train youth to call an adult if equipment malfunctions

Supervision

Note: Youth should not engage in high risk activities, such as loading/unloading skid steer for transport or driving on roads.

16+ yrs	Nearly constant supervision progressing to intermittent

Hazards

Lift arms pin operator | Extra riders | Rollover | Run-over | Collision with objects

Protective Strategies

Seatbelt | Non-skid shoes | Gloves | Operator's manual | Hearing protection (if needed)

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https://doi.org/10.21636/nfmc.nccrahs.youthwork.skidsteer.g.2017

Operating an All-Terrain Vehicle (ATV)

Can youth do this job safely?

Youth must be able to do/have all of the following to perform this job safely:

- Avoid loose clothing; clothes with strings; tie up long hair
- Reach and operate controls when seated in center of seat or when shifting body to the back of the seat
- Stand upright while straddling the seat and lean forward over the handlebars
- Strong enough to operate the controls without straining
- Push ATV off if pinned underneath
- Understand and consistently repeat a 10-step process
- Good peripheral vision when wearing a helmet
- Recognize a hazard, problem solve, and respond appropriately
- React quickly to hazards
- Mature enough to consistently do what is expected
- Think through actions and consequences before acting
- ATV has a Crush Protection Device (CPD) designed to prevent crush injuries in lower speed crashes (<30 mph)
- Safely demonstrate the job 4 to 5 times
- Maintain two-way communication link

Adult Responsibilities

- Comply with working outdoors guideline
- Ensure ATV is mechanically sound with safety features
- Verify ATV model meets “rider fit” recommendations
- Provide appropriate training
- Ensure youth does not operate ATV after dark or in bad weather
- Ensure work area is free from as many hazards as possible
- Educate youth on avoiding/addressing remaining hazards
- Establish a safe route to the worksite
- Ensure load is appropriate size, balanced and secured
- Train youth to call an adult if equipment malfunctions

Supervision

Note: Youth should not engage in high risk activities, such as loading/unloading the ATV for transport, driving on roads and spraying.

16+ yrs	Continuous supervision progressing to periodic

Hazards

High speed | Extra riders | Rollover | Inattentive driving | Collision with objects

Protective Strategies

Helmet with eye protection | Non-skid shoes | Operator’s manual | Gloves | Communication Tools

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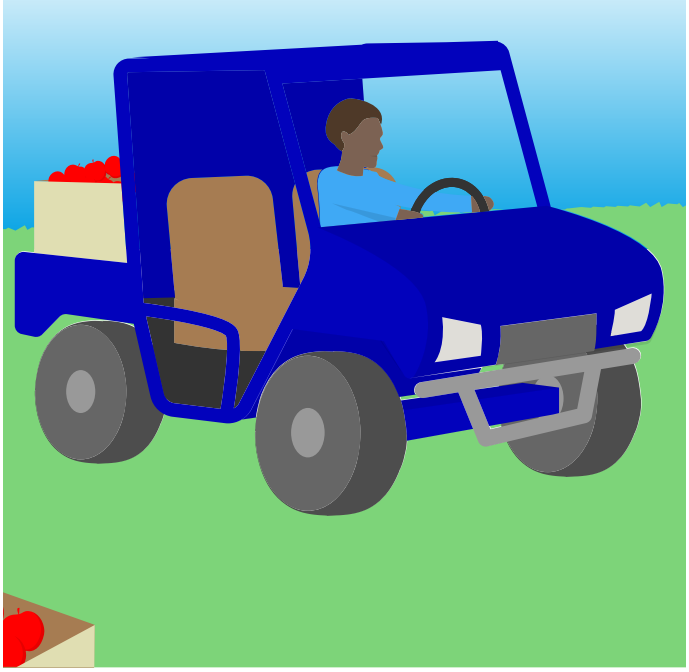
https://doi.org/10.21636/nfmc.nccrahs.youthwork.atv.g.2017

Operating a Utility Task Vehicle (UTV)

Can youth do this job safely?

Youth must be able to do/have all of the following to perform this job safely:

- Avoid loose clothing, clothes with strings, tie up long hair
- Reach and operate controls while wearing seatbelt
- Reach the ROPS handhold while seated wearing seatbelt
- Recognize a hazard, problem solve, and respond appropriately
- React quickly to hazards
- Mature enough to consistently do what is expected
- Think through actions and consequences before acting
- Safely demonstrate the job 4 to 5 times
- Maintain two-way communication link



Adult Responsibilities

- Ensure UTV is mechanically sound with safety features
- Provide appropriate training
- Ensure youth does not operate UTV after dark or in bad weather
- Teach youth to minimize driving on or crossing public roads
- Demonstrate how to safely drive an UTV
- Ensure work area is free from as many hazards as possible
- Educate youth on avoiding/addressing remaining hazards
- Establish a safe route to the worksite
- Ensure load is appropriate size, balanced and secured
- Train youth to call an adult if equipment malfunctions

Supervision

Note: Youth should not engage in high risk activities, such as loading/unloading UTV for transport, driving on roads or spraying.

16+ yrs	Continuous supervision progressing to periodic

Hazards

High speed | Extra riders | Rollover | Run-over | Collision with objects

Protective Strategies

Seatbelt | Non-skid shoes | Operator's manual | Helmet (if no ROPS) | Communication Tools

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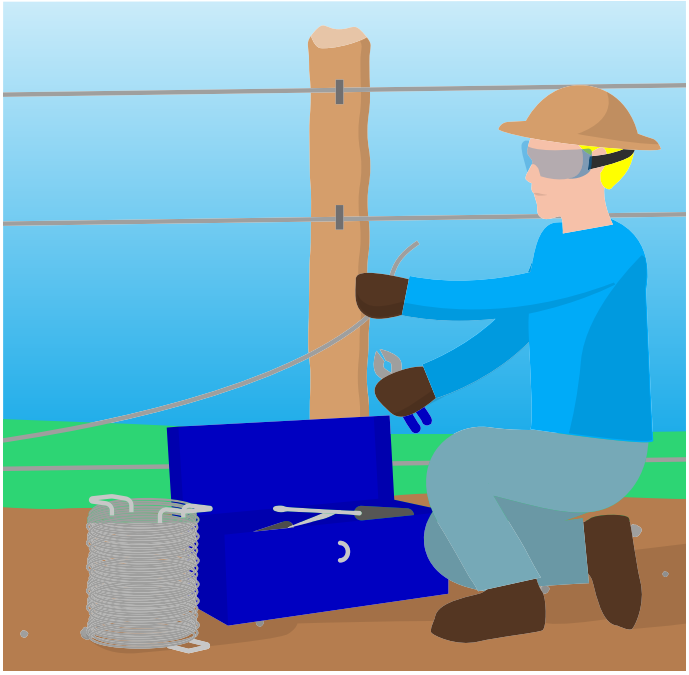
https://doi.org/10.21636/nfmc.nccrahs.youthwork.utv.g.2017

Repairing Fence

Can youth do this job safely?

Youth must be able to do/have all of the following to perform this job safely:

- Avoid loose clothing, clothes with strings, tie back long hair
- Attention span long enough to complete work
- Good eye-hand coordination
- Recognize a hazard, problem solve, and respond appropriately
- React quickly to hazards
- Understand and consistently repeat a 10 step process
- Mature enough to consistently do what is expected
- Lift safely, using proper lifting technique
- Limit weight to be lifted to less than 25% of body weight
- Carry the load the required distance without straining
- Physical stamina to perform the job for up to 50 minutes
- Maintain access to and reach escape route
- Safely use tools that are properly sized for youth
- Safely demonstrate the job 4 to 5 times
- Maintain two-way communication link



Adult Responsibilities

- Comply with the working outdoors guideline
- Provide safe transport to work area
- Verify electric fence is turned off and locked out/tagged out
- Ensure work area is as free from as many hazards as possible
- Educate youth on avoiding/addressing remaining hazards
- Provide appropriate training
- Confirm animals are free of disease and injuries
- Isolate aggressive livestock from the worksite
- Establish an escape route/plan
- Demonstrate how to safely repair fence

Supervision

12-13 yrs	Constant supervision
14-15 yrs	Nearly constant progressing to intermittent
16+ yrs	Intermittent supervision progressing to periodic

Hazards

Weight | Animal contact | Sharp edges | Electricity | Repetitive Motion

Protective Strategies

Steel-toed non-skid shoes | Eye protection | Gloves | Sun protection | Communication tools

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https://doi.org/10.21636/nfmc.nccrahs.youthwork.repairfence.g.2017

Tractor Operation Chart

Guidelines for Safe Operation of Tractor

- **Tractors have**
  - o Wide front ends
  - o Roll Over Protective Structure (ROPS) and seatbelt
  - o All safety features in place
- **Youth**
  - o Perform pre-operational check with adult
  - o Can reach all controls while wearing seatbelt
  - o Does not have extra riders on the tractor
  - o Operates tractor only in daylight and during good weather
  - o Avoids steep slopes and driving near ditches, trees and fences

Refer to the specific guideline for recommended supervision	Size of Tractor			
	UTILITY	SMALL 20hp to 70hp	MEDIUM-LARGE more than 70hp	ARTICULATED
Operating a Farm Tractor (no equipment attached)	14 - 15 years	14 - 15 years	14 - 15 years	16+ years
Trialed Implements	14 - 15 years	14 - 15 years	14 - 15 years	16+ years
3-Point Implements	14 - 15 years	14 - 15 years	14 - 15 years	16+ years
Remote Hydraulics	14 - 15 years	14 - 15 years	14 - 15 years	16+ years
PTO-Powered Implements	14 - 15 years	14 - 15 years	14 - 15 years	16+ years
Tractor-Mounted Front-End Loader	14 - 15 years	16+ years	16+ years	16+ years
Working in an Orchard	14 - 15 years	16+ years	16+ years	16+ years
Working Inside Buildings	14 - 15 years	16+ years	16+ years	16+ years
Driving on Public Roads*	N/A	16+ years	16+ years	16+ years
Pulling Oversize or Overweight Loads	Due to increased hazard and complexity, these jobs should **NOT** be assigned to youth.			
Hitching Tractor to Move Stuck/Immovable Object				
Simultaneous Use of Multiple Vehicles				
Additional Persons on a Trailing Implement				
Pesticide or Anhydrous Ammonia Application*				

* follow state/province laws

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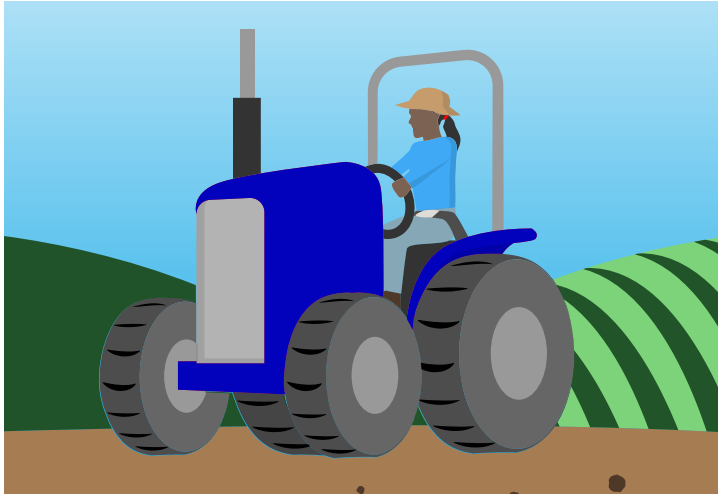
Cognitive Development & Tractors

Cognitive Development in Children

- Children's cognitive thinking skills are not as developed as adults.
- The ability to process information the way an adult does involves both maturation and learning. It usually develops slowly over time.
- Maturation in thinking skills does not depend entirely on chronological age, nor is it entirely a function of intelligence.
- The ability to process information and make decisions quickly and precisely is essential to the safe operation of a tractor.



Differences in Cognitive Ability between Children and Adults

Speed of Processing

- Children absorb and process information more slowly than adults.
- Children cannot make decisions as fast or efficiently as adults.
- Tractor operation requires rapid and precise processing of information to remain safe. Any delays – even split seconds – can jeopardize safety.

Decision-Making

- Children are still developing the advanced skills needed to think about information logically and reach decisions.
- Children are less able to understand the consequences of their actions.
- Children are not as good at considering alternative options to a dilemma or decision.

Impulse Control

- Compared to adults, children have inferior ability to restrain themselves when they want something.
- Poor impulse control increases risk when operating tractors.

Generalization Skills

- Children are less able to translate a message learned in one scenario to a similar situation.
- As a result, youth may make dangerous mistakes when operating tractors.

Attention Span

- Children are unable to concentrate on a single task for as long as most adults.
- Operating a tractor can require focused attention for long periods of time to maintain safety.

See Operating a Tractor to determine if a youth is capable of safely operating a tractor.

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Perceptual Development & Tractors

Perceptual Development in Children

- Children's perceptual processes are not as developed as adults.
- The ability to perceive things the way an adult does involves both maturation and learning; it usually develops slowly over time.
- Maturation in perception does not depend entirely on chronological age, nor is it entirely a function of intelligence.
- The ability to perceive things correctly is essential to the safe operation of a tractor.

Differences in Perceptual Ability between Children and Adults

Physical Ability

- Children are less accurate in estimating their ability to reach items like foot and hand controls on tractors.
- If children cannot easily and quickly reach tractor controls, they may collide with objects or run over people in their path.

Visual Cues

- Children are less skilled at scanning the environment to look for unusual, different or important features.
- The failure to notice obstacles, people or risky situations can result in collisions, run-overs and rollovers.

Sound Cues

- Children are not as good as adults at using hearing to decide when an approaching vehicle may arrive.
- The misinterpretation of the arrival of an approaching vehicle can result in a collision.

Distances

- Children are less accurate judging the distance from themselves to objects in their environment.
- Rollovers can result if a child misjudges the distance between the tire of the tractor and a ditch.

Movement & Speeds

- Children are less accurate judging the speeds of moving objects, as well as judging acceleration or deceleration of moving objects.
- As a result, youth may encounter other moving vehicles or objects sooner than expected, resulting in a collision.

Slopes & Terrains

- Children may struggle to accurately judge the angle of inclines and declines.
- Operating a tractor on steep inclines can cause rollovers.

See Operating a Tractor to determine if a youth is capable of safely operating a tractor.

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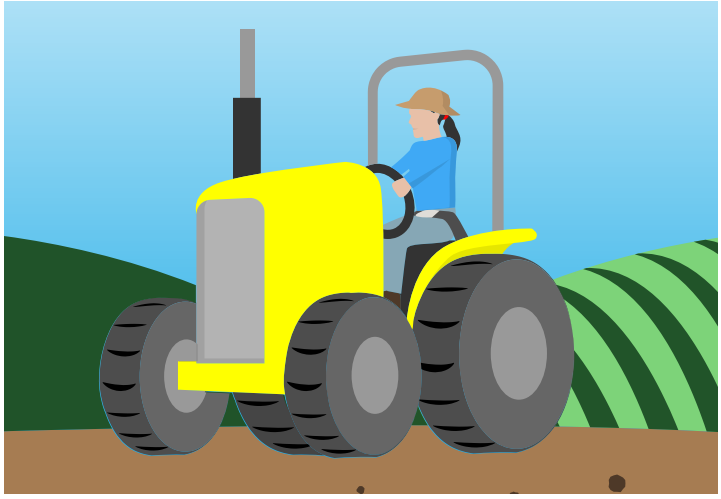
Physical Development & Tractors

Physical Development in Children

- Children and adolescents are physically different from adults.
- Youth usually have shorter arms and legs, meaning their reach is less.
- Youth usually have less strength than adults.
- Because of their size, youth may have different visual angles and perspectives than adults.
- Youth may have less coordination and poorer balance than adults.



Differences in Physical Characteristics between Children and Adults

Reach

- Children have shorter arms and legs than adults.
- Children have shorter torsos than adults.
- Because of their size, children may not comfortably, quickly, or easily reach foot pedals, hand levers, or steering wheels while operating a tractor. This can impact safety.
- Because of their size, children may not wear seat belts in tractors, reducing their safety.

Balance and Coordination

- Children are often not as coordinated as adults.
- Children have less ability to balance compared to adults.

Strength

- Children are generally weaker than adults.
- Children may tire easily, having less endurance than adults.
- Less strength and less endurance can impact safety because youth may not be able to use strength to push pedals or levers. This is especially risky in emergency situations.

Vision

- When sitting in a tractor, children may have different visual angles because they are shorter.
- A limited field of view while operating a tractor can impact safety significantly.

See Operating a Tractor to determine if a youth is capable of safely operating a tractor.

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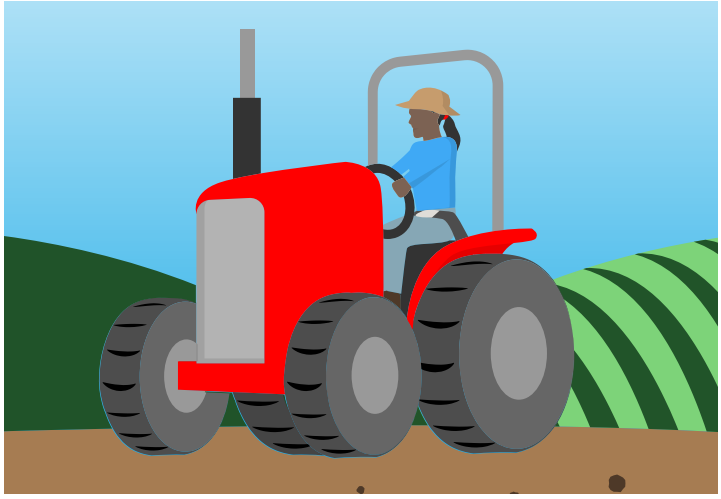
Social Development & Tractors

Social Development in Children

- Children's behavior is influenced by others in their lives.
- Adults, and especially parents, can impact children through actual teaching, by modeling safe or unsafe behaviors, and by setting rules that youth are expected to follow.
- Peers can influence children by encouraging or discouraging risk-taking, by creating peer pressure, and by modeling safe or unsafe behaviors.



How Social Development Can Influence Children

Parent Teaching

- Parents can teach children how to be safe.
- Guidelines and lessons should be patiently provided.
- Careful and patient rule-setting, teaching, and supervision can increase youth safety while operating tractors.

Parent Modeling

- Children watch their parents and mimic what they see, both good and bad.
- If parents engage in safe behaviors, their children are likely to absorb those lessons and also engage in safe behaviors. If parents take dangerous risks, children may too.

Parent Rules

- Parents are the authorities on farms. They must set rules for children and adolescents, and they must enforce those rules.
- Safe behaviors should be praised and rewarded to encourage positive behaviors.

Peer Risk Taking

- Children and adolescents often take risks, as it is natural to try new things to grow.
- Risk-taking while operating a tractor can be dangerous.

Peer Pressure

- Children and adolescents are developing their identity – trying to understand themselves. Because of this, they are susceptible to influence from peers.
- Youth may copy what their peers do, and may try to impress their peers. This can lead to risky behavior, including while operating tractors.

Peer Modeling

- Youth may copy their peers' risky or dangerous behaviors, especially if it is someone they respect or look up to.

See Operating a Tractor to determine if a youth is capable of safely operating a tractor.

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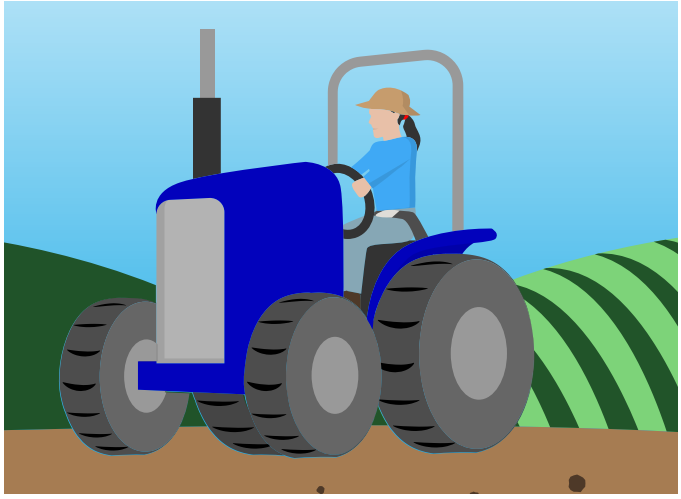
Sociocultural Factors & Tractors

Sociocultural Influences for Youth

- Children's behavior is influenced by a range of sociocultural influences that may impact their safety while operating tractors.
- Children use technology frequently, and devices such as smartphones can distract them while operating tractors.
- Children need more sleep than adults, and adolescents have a circadian rhythm that makes it difficult to awaken early. Fatigue can influence safety.
- Children may prefer attire and hair styles that create risk while operating tractors.



How Sociocultural Factors Can Influence Youth Safety on Tractors

Tendency Towards Distraction

- Children frequently use smartphones and other electronic devices to communicate, play games, and listen to music.
- Technology can distract youth when they need to focus on a different task, such as operating a tractor.

Fatigue and Sleep

- Youth in North America rarely get the sleep their bodies need.
- Adolescents often have a biologically-driven circadian rhythm that leads them to stay up late and sleep late.
- Fatigue, both chronic and acute, can lead to inattention, risk-taking, poor concentration, and simple mistakes.
- Fatigue is a significant risk for tractor operation safety.

Clothing and Hairstyles

- Children and adolescents prefer to look fashionable, sometimes to the point that they ignore safety.
- Wearing loose or tattered clothing can create risk when operating a tractor.
- Loose drawstrings or hair that is not pulled up can create risk when operating a tractor.
- Dangerous choices in fashion and hairstyles can be reinforced through peer pressure.

See Operating a Tractor to determine if a youth is capable of safely operating a tractor.

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Operating a Tractor

Can youth do this job safely?

Youth must be able to do/have all of the following to perform this job safely:

- Reach and operate controls while wearing a seatbelt
- Strength to repeatedly operate controls
- Tall enough for good field of vision when seated on tractor
- Understand and consistently repeat a 10-step process
- Recognize a hazard, problem solve, and respond appropriately
- React quickly to hazards
- Mature enough to consistently do what is expected
- Think through actions and consequences before acting
- Avoid loose clothing, clothes with strings, tie up long hair
- Comply with the working outdoors guideline
- Safely demonstrate the job 4 to 5 times
- Maintain two-way communication link

Adult Responsibilities

- Ensure tractor is mechanically sound and safety features are in place, including ROPS
- Review developmental guidelines to verify youth's ability to operate tractor
- Demonstrate how to safely drive tractor
- Provide appropriate training
- Educate youth to mount tractor using 3 points of contact
- Ensure work area is free from as many hazards as possible
- Educate youth on avoiding/addressing remaining hazards
- Ensure youth does not operate tractor after dark/in bad weather
- Train youth to call an adult if equipment malfunctions

Supervision

Note: Ensure tractor is sized appropriately for youth. Youth must be 16+ years to drive an articulated tractor. See Tractor Operations Chart for guidance.

14-15 yrs	Intermittent supervision progressing to periodic
16+ yrs	Periodic supervision

Hazards

High speed | Extra riders | Rollover | Run-over | Collision with objects

Protective Strategies

Seatbelt | Non-skid shoes | Operator's manual | Hearing protection (if needed) | Respiratory protection (if needed)

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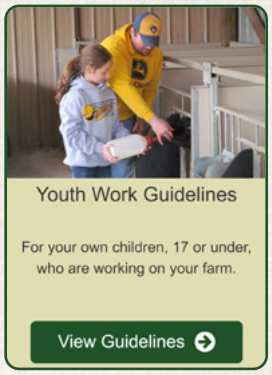
AGRICULTURAL YOUTH WORK GUIDELINES

Additional Agricultural Youth Work Guidelines Available:

The Agricultural Youth Work Guidelines are available for over 50 tasks, including work basics, haying, dairy, gardening, working with animals, operating equipment and many others. Newly created guidelines are also available, such as operating unmanned aerial vehicles (UAVs) and greenhouse work. All the guidelines are available in three languages (English, Spanish and French) and in multiple formats (interactive, read, print and view/download). Print and view formats enable users to modify the skin tones of the workers and the equipment colors in the images.

Visit cultivatesafety.org/work to access the guidelines.



To access the guidelines, click on “View Guidelines” in the Youth Work Guidelines box. This will take you to a search page where you can search the full set of guidelines, using built in filters to refine your search.

Content on supervision, child development, benefits of farm work and creating a communication plan can also be accessed from the cultivatesafety.org/work page. Simply scroll down and click the appropriate content box.

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