Workers in the agriculture and natural resources industry encounter a variety of occupational hazards, some of which can be fatal. This fact sheet:

- Increases awareness of the primary injury/illness hazards in the agriculture and natural resources industry;
- Offers recommended hazard control measures;
- Provides a partial list of the vast resources available from BWC.

Industry specific injury/illness facts

- Each year, approximately 1,000 employees in the agriculture and natural resources industry sustain occupational injuries or illnesses that result in workers’ compensation claims.
- Each year, an average of four people in Ohio’s agriculture and natural resources industry lose their lives due to occupational injuries or illnesses.
- Approximately 20 percent of workers’ compensation claims result in eight days or more away from work and cost an average of $41,500 per claim.
- Slips, trips and falls and overexertion are the primary causes in 50 percent of all injuries that result in eight or more days away from work.

BWC has a variety of safety and health services that can assist you with addressing hazardous conditions in your workplace. These include On-site Consultation, Safety Intervention Grants, Training and Video Library Services.
Injury Prevention for the Agriculture and Natural Resources Industry

Below is one of the primary hazards and/or causes of injuries in the Agriculture and Natural Resources Industry. We recommend the following control measures and BWC resources to help prevent this type of accident from happening in your business. For more information connect with a BWC safety consultant at 1-866-569-7805 or via email at besafe@ohiobwc.com.

Primary hazard/cause: Overexertion due to manual materials handling and repetitive, awkward postures

<table>
<thead>
<tr>
<th>Recommended control measures</th>
<th>BWC resources for assistance</th>
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</table>
| • Analyze the work conditions for potential ergonomic risk factors. | **Ergonomics consulting services**  
  e.g. Manual material handling assessment |
| • Provide ergonomically-designed tools and equipment. | **Safety intervention grants**  
  e.g. Material handling equipment, improved tools |
| • Provide mechanical equipment to minimize manual lifting. | **Training courses**  
  • Ergonomics- Basic Principals  
  • Understanding and Identifying Ergonomic Risk Factors  
  • Avoiding Back Trauma Online |
| • Eliminate long carrying distances by providing powered carts and dollies. | **Videos**  
  • Back Safety: Lift for Life #440074  
  • Ergonomics #440089  
  • Overexertion – injury prevention #440069  
  • Safe Manual Handling #440081 |
| • Control overexertion risks by reducing the size and weight of loads. | **Safety talks**  
  • Back Injuries  
  • Vibrating Tools |
| • Provide training on ergonomic risk factors and fatigue factors that increase hazards. | **Educational guides**  
  • What is Ergonomics?  
  • What is Manual Materials Handling? |
| • Get employees involved in job improvements. | |

You can find these resources on our website at www.bwc.ohio.gov or by calling a safety consultant at the number listed above.

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Primary hazard/cause:
Slips, trips and falls

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| • Analyze the work areas for potential slip, trip and fall hazards. | **Safety consulting services**
  e.g. Slip, trip and fall hazard assessment |
| • Provide and enforce the use of proper footwear and fall protection. | **Training courses**
  • Fall Hazards in Construction and Maintenance
  • Construction Safety Elements
  • Preventing Slips, Trips and Falls Online
  • Ladder/Stairway Safety Online
  • Job Safety Analysis
  • Scaffolding safety |
| • Conduct frequent housekeeping inspections. | **Videos**
  • Safety Smart Video Series 1-4 #470076
  • Fall Factors: Understanding and Preventing Slips, Trips and Falls #420431
  • Slips, Trips and Falls: Stranger Than Friction #420025
  • Ladder Safety #420378
  • Height Safety Essentials #430376
  • Your Safety Matters #490237 |
| • Properly use and maintain fall protection equipment including ladders, scaffolding, mobile lifting equipment and personal fall arrest equipment. | **Safety talks**
  • Walking and Working Surface Safety
  • Three-point Contact
  • Falls |
| • Provide fall protection training on guardrails, personal lifting equipment and fall protection plans. | **Educational guides**
  • What is Fall Protection? |
| • Maintain good housekeeping. | |

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Primary hazard/cause:
Getting struck by moving equipment and falling/flying objects or debris

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<tbody>
<tr>
<td>• Provide secure storage of materials and equipment to prevent sliding and collapse.</td>
<td>Safety consulting services</td>
</tr>
<tr>
<td>• Barricade any location where objects could fall or strike workers.</td>
<td>e.g. Equipment/machine guarding assessment, lockout/tagout program assessment</td>
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<td>• Provide and enforce the use of hard hats in areas where objects may fall from above or where head bump hazards exist.</td>
<td>Training courses</td>
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<tr>
<td>• Prohibit working under suspended loads.</td>
<td>• Construction Safety Elements</td>
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<td>• Before starting mechanical work, inspect the area for objects that the machine or equipment may throw.</td>
<td>• Temporary Traffic Management</td>
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<td>• Make sure all equipment and tools are properly guarded.</td>
<td>• Powered Industrial Trucks</td>
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<tr>
<td></td>
<td>• Lockout/Tagout and Safety-Related Work Practices</td>
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<tr>
<td></td>
<td>Videos</td>
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<tr>
<td></td>
<td>• Safe Manual Handling #440081</td>
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<td></td>
<td>• Move It Safely #440086</td>
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<td></td>
<td>• Rigging Operations #400080</td>
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<td></td>
<td>• CEMA Bulk Material Handling Conveyor Safety #420446</td>
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<tr>
<td></td>
<td>• Lockout/Tagout (numerous titles)</td>
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<tr>
<td></td>
<td>Safety talks</td>
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<td>• Control of Hazardous Energy (Lockout/Tagout)</td>
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<tr>
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<td>• Machine Guarding; The Hidden Dangers</td>
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<td></td>
<td>Educational guides</td>
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<tr>
<td></td>
<td>• What are Powered Industrial Trucks?</td>
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### Primary hazard/cause:
Getting caught in or between moving parts or equipment

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| • Evaluate guarding and lockout/tagout issues on all equipment. | **Safety consulting services**  
  e.g. Machine/equipment guarding assessment |
| • Properly guard all moving machinery parts. | **Training courses**  
  • Lockout/Tagout & Safety-Related Work Practices  
  • Machine Guarding Basics  
  • Construction Safety Elements  
  • Job Safety Analysis |
| • Enforce adherence to lockout/tagout procedures. | **Videos**  
  • Lessons Learned from Hand Injuries #420086  
  • Tips From The Pros: Crawler Excavator #400012  
  • Machine Guard Awareness #420381  
  • Pedestrian Safety Training #420394  
  • Grain Bin Safety: Protecting Yourself and Your Family #490239  
  • Kevin Bailey Story #490172  
  • Safety: The Good Fight #490040 |
| • Install roll-over protective systems (ROPS) on equipment. | **Brochure**  
  • Grain Bin Operations: The Deadliest Hazards |
| • Establish safe roadways for equipment, paths and aisles for pedestrians. | **Safety talks**  
  • Control of Hazardous Energy: Lockout/Tagout  
  • Job Safety Analysis |
| • Conduct job safety analysis on all tasks, and address all mechanical hazards. | **Educational guides**  
  • What is Lockout/Tagout? |
| • Prohibit loose clothing and hair. | |
| • Prohibit walking on grain. | |

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# Injury Prevention for the Agriculture and Natural Resources Industry

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**Primary hazard/cause:**  
Airborne dusts, fumes and vapors (e.g. silica, mineral dusts, grain dust, wood dust, ammonia), elevated noise levels; temperature extremes

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| • Assess air contaminants and noise levels to determine exposures. | **Industrial hygiene consulting services**  
e.g. Air monitoring, Noise monitoring, PPE assessment |
| • Enclose dust-producing equipment. | **Safety intervention grants**  
e.g. Local exhaust ventilation, acoustical enclosures, equipment cab modifications, compressed air silencers |
| • Deploy local exhaust ventilation to capture air contaminants at the source. |  |
| • Use rock dusting or wetting to reduce dust. |  |
| • Provide appropriate personal protective equipment (PPE). |  |
| • Reduce noise levels by enclosing noise-producing machines/processes. |  |
| • Provide appropriate PPE to protect workers from noise levels that engineering controls cannot reduce. |  |
| • Establish an administrative program to identify potential heat/cold stress. |  |
| • Implement control measures to address heat/cold stress (rest, shade/shelter, hydration, PPE). |  |

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Primary hazard/cause: Confined spaces (grain bins, manure pits)

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</table>
| • Identify all potential confined spaces. | **Safety consulting services**  
e.g. Identification of potential confined spaces; reviewing safe work practices for confined space entry |
| • Establish safe entry and rescue procedures for each space. | **Training courses**  
• Confined Space Assessment and Work  
• Personal Protective Equipment |
| • Provide appropriate monitoring, entry and rescue equipment. | **Videos**  
• Confined Space Entry: Plan & Prepare #420408  
• Confined Spaces: Dangerous Places #420368  
• Grain Bin Safety: Protecting Yourself and Your Family #490239  
• Safety: The Good Fight #490040  
• Your Safety Matters #490237 |
| • Provide training on safe entry and rescue techniques. | **Safety talks**  
• Confined Space  
• Permit-required Confined Spaces |
| • Prohibit unauthorized entry to confined spaces. | **Educational guides**  
• What is Confined Space? |

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