ATV and Side-by-Side Safety for Workers and Families in Agriculture

Charles Jennissen, MD
Clinical Professor
Departments of Emergency Medicine and Pediatrics
University of Iowa Carver College of Medicine
All-Terrain Vehicles (ATVs)

Utility ATV

Sports ATV
Utility Task Vehicles (UTVs)
Recreational Off-Highway Vehicles (ROVs)

Sport ROV

Multipurpose ROV
– 297 work-related ATV deaths (>18 years of age)

61% were in the agriculture production industry
Fatality rate per million workers 143 X greater than all other industries
ATV-Related Workers’ Compensation Claims in Montana, 2007–2012

Elise A. Lagerstrom 1,†,*, David P. Gilkey 1,†, David J. Elenbaas 2,† and John C. Rosecrance 1,†

1 Department of Environmental and Radiological Health Sciences, Colorado State University, 1816 Camus Delivery, Ft. Collins, CO 80523-1681, USA; E-Mails: david.gilkey@colostate.edu (D.P.G.); john.rosecrance@colostate.edu (J.C.R.)
2 Montana Employment Relations Division, P.O. Box 8011, Helena, MT 59604-8011, USA; E-Mail: daelenbaas@mt.gov

† These authors contributed equally to this work.

* Author to whom correspondence should be addressed; E-Mail: lagerste@colostate.edu; Tel.: +1-503-867-4375.

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<table>
<thead>
<tr>
<th>Industry</th>
<th>Number of Claims</th>
<th>Percent of Total Claims</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture</td>
<td>126</td>
<td>58.6%</td>
</tr>
<tr>
<td>Public Administration</td>
<td>29</td>
<td>13.5%</td>
</tr>
<tr>
<td>Construction</td>
<td>15</td>
<td>6.8%</td>
</tr>
<tr>
<td>Professional and Technical Services</td>
<td>12</td>
<td>5.6%</td>
</tr>
<tr>
<td>Administrative and Support Services</td>
<td>9</td>
<td>4.2%</td>
</tr>
<tr>
<td>Utilities</td>
<td>6</td>
<td>2.8%</td>
</tr>
<tr>
<td>Arts, Entertainment, and Recreation</td>
<td>4</td>
<td>1.9%</td>
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<tr>
<td>Education Services</td>
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<td>1.4%</td>
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<tr>
<td>Manufacturing</td>
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<td>0.9%</td>
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<tr>
<td>Mining</td>
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<td>0.9%</td>
</tr>
<tr>
<td>Retail Trade</td>
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<td>0.9%</td>
</tr>
<tr>
<td>Not Classified</td>
<td>2</td>
<td>0.9%</td>
</tr>
<tr>
<td>Accommodation and Food Services</td>
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<td>0.5%</td>
</tr>
<tr>
<td>Finance and Insurance</td>
<td>1</td>
<td>0.5%</td>
</tr>
<tr>
<td>Other Services</td>
<td>1</td>
<td>0.5%</td>
</tr>
<tr>
<td>Total</td>
<td>215</td>
<td>100%</td>
</tr>
</tbody>
</table>
Cost of Work-Related ATV Deaths

- Utilized Bureau of Labor Statistics’ annual Census of Fatal Occupational Injuries
  - 129 work-related ATV deaths from 2003-2006
  - Mean cost of $803,100 per death.
  - 65% were workers in agriculture with a cost of $62.3 million

Circle the Earth ~25 ½ Times!
ATV Exposure

Surveyed 635 visitors at the 2012 and 2013 Farm Progress show, the nation’s largest outdoor farm show.

Ever ride an ATV?

- 91.2%
- 8.9%
# Odds of Having Been in an ATV Crash

## Unsafe Riding Practices

<table>
<thead>
<tr>
<th>Practice</th>
<th>Odds Ratio</th>
<th>95% Confidence Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neither practice</td>
<td>1.0 (ref)</td>
<td></td>
</tr>
<tr>
<td>Riding with passengers</td>
<td>2.61</td>
<td>0.84-8.09</td>
</tr>
<tr>
<td>Riding on the road</td>
<td>4.83</td>
<td>1.23-18.93</td>
</tr>
<tr>
<td>Both practices</td>
<td>8.02</td>
<td>2.93-21.96</td>
</tr>
</tbody>
</table>

![ATV Crash Image]
ATV Exposure

Surveyed 1573 attendees of the 2017 and 2018 Iowa FFA Leadership Conferences.

Family ever owned an ATV?

78% YES
89% YES - Farm

Ever ridden an ATV?

95% YES
98% YES - Farm
<table>
<thead>
<tr>
<th>Location</th>
<th>Ave Age First Rode as Passenger</th>
<th>Ave Age First Rode as Driver</th>
</tr>
</thead>
<tbody>
<tr>
<td>On Farm</td>
<td>5.3 years</td>
<td>8.3 years</td>
</tr>
<tr>
<td>In Country, Not Farm</td>
<td>6.5 years</td>
<td>9.1 years</td>
</tr>
<tr>
<td>Town</td>
<td>6.8 years</td>
<td>9.6 years</td>
</tr>
</tbody>
</table>
Ever in an ATV crash (as passenger or driver)? 35% YES

Those on farms had a higher percentage with ≥3 crashes (40%).

p=0.025
Supervision (2018, n=971)

- 46% stated that the ages they first drove and first drove unsupervised were the same age.
- 91% of the respondents’ first ATV crash occurred after they were driving unsupervised.
- FFA members from farms drove ATVs unsupervised at younger ages than those that lived elsewhere, p=0.0002.

For over 2/3, this was ≤ 11 years.
ATV-Related Injury

Of those with an ATV crash, did you ever require getting medical attention? 15% YES
Since 2004, more kids <16 years have been killed each year from ATVs than from bicycle crashes.
Youth ATV operators have a 12X greater risk of injury compared to adults.
The rate of adult ATV-related injuries and deaths far surpassed that of children in the 2000’s.

Data from the National Electronic Injury Surveillance System (NEISS)
First 4-wheeler: 1979 Suzuki LT-125
Greater vehicle size and speed result in greater crash forces.
Greater vehicle size increases likelihood of being trapped under the vehicle during a rollover.
The majority of ATV deaths and injuries are due to a non-collision event (rollover or ejection/fall from the vehicle).
8/10 agricultural workers died in non-highway event (most from rollovers)

Crush Protection Devices (CPDs)

Quadbar ®

ATV Lifeguard ®
American Academy of Pediatrics recommends no children under 16 drive an ATV.
How do we get from here ...to there?
We decided to target 12-15 year olds and developed a school-based curriculum.
Safety Tips for ATV Riders (STARs)

1. Always wear your helmet
2. One person at a time
3. Ride the right size machine
4. Always wear your protective gear
5. Never ride on the road
6. Take a safety course
7. Tell someone where you are going
8. Respect private property
9. Never use alcohol or drugs
10. Always obey the rules
One person at a time.
Most traditional ATVs are designed and recommended for use by one person only.
ATVs require active riding.
Passengers complicate and even prevent these weight shifting needs.
Passengers or operators with passengers account for 46% of all U.S. pediatric ATV-related fatalities.
Of those Iowa students 11-16 yrs who had been on an ATV, over 90% stated that had ridden with or as a passenger.
Passengers increase the center of gravity height and shift center of gravity backwards.
Backward rollovers were 2.5 times more likely to have passengers as other rollovers.
Falls/ejections to the rear were over 5 times more likely to have passengers on the ATV than other types of ejections.
ATV victims with falls/ejections to the rear had the highest overall mean head injury scores.
Never ride on the road.
Roadway Crashes

- Over 60% of all ATV fatalities are on roadways.
After 1998, roadway deaths increased at a rate 2x greater than deaths occurring off-road.
However, over 2/3 of roadway fatalities and an even greater % of roadway injuries are not related to collisions with another vehicle.

Why are ATVs so dangerous on roads?
Not Designed for Roads

- High center of gravity
- Narrow track
- Tires
- Solid rear axle/Fixed rear differential
The national trade association representing ATVs manufacturers and distributors in the US:

ATVs are not designed, manufactured, or in any way intended for use on public streets, roads or highways and urges that on-highway use of ATVs be prohibited and that law enforcement efforts be strengthened to eliminate this dangerous practice.
Of those Iowa students 11-16 yrs who had been on an ATV, **over 80%** stated they had ridden on a public road.
Agricultural Exemption

Use must be for a valid agricultural purpose
Between sunrise and sunset
Have a valid driver’s license
Travel ≤35 mph
Increase visibility by:

Using a fluorescent orange flag.

Driving orange/yellow ATVs rather green and camouflage.

Avoid driving on road for farm purposes whenever able to do so.
Recent trend is of legislation allowing increased ATV access to pubic roads, especially secondary roads that are unpaved.

But, **43%** of all roadway deaths are on unpaved roads.
Prevent ATV Public Roadway Access

• Be an Advocate

• Join our ATV on Roads Task force

— Consumer Federation of America has been a lead organization
— Rachel Weintraub: rweintraub@consumerfed.org
Always wear a helmet.
Head injuries most frequent cause of death and permanent disability in ATV crashes.
Reduce risk of head injury by about 80%.
Despite the benefits, helmets are frequently not worn.

Helmet use by adults is much lower than that of children.
An ATV helmet needs to be able to meet standards, similar to a motorcycle helmet.
“Helmets just look wrong, they get in the way, you can’t eat, drink, shout, talk or even spit properly when wearing one… hell they are even an awkward thing to put down somewhere.”
Quadsafe Helmets
Ride the right size machine.
95% of all U.S. child fatalities (<16) were riding an adult size ATV at the time of their crash.

8 yr old who was on an adult ATV with another child. ATV rolled on top of her and punctured her lung.
CPSI Act changed the definition of youth size vehicles to the vehicle’s maximum restricted and unrestricted speeds.

<table>
<thead>
<tr>
<th>Category</th>
<th>Age Range</th>
<th>Maximum Speed (Restricted)</th>
<th>Maximum Speed (Unrestricted)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Y-6+</td>
<td>Age 6 or older</td>
<td>10 mph</td>
<td>15 mph</td>
</tr>
<tr>
<td>Y-10+</td>
<td>Age 10 or older</td>
<td>15 mph</td>
<td>30 mph</td>
</tr>
<tr>
<td>Y-12+</td>
<td>Age 12 or older</td>
<td>15 mph</td>
<td>30 mph</td>
</tr>
<tr>
<td>Y-14+/T</td>
<td>Age 14 or older</td>
<td>20 mph</td>
<td>30 or 38 mph</td>
</tr>
</tbody>
</table>
• Crashes with speeds >20 mph were associated with higher mean head injury scores. (*p*=0.05)
Ever increasing and higher speeds of ATVs are likely contributing to more deaths and serious injuries.
Parents should carefully assess a family member’s readiness to operate an ATV.
North American Guidelines for Children’s Agricultural Tasks (NAGCAT)

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
• 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 at lower speed crashes
• Safely demonstrate the job 4 to 5 times
• Maintain two-way communication link

cultivatesafety.org
Not all youth have the size, strength, skills, or maturity to safely operate an ATV.
Recreational Off-Highway Vehicles (ROVs)

Sport ROV

Multipurpose ROV
ROVs are becoming increasingly valuable assets in many work settings, especially agriculture.
ROV Sales 1998–2013

Source: CPSC analysis of data compiled by Power Products Marketing.
ROV Sales by Region

22% West
45% Sport

27% Midwest
86% Multipurpose/Utility

44% South
83% Multipurpose/Utility

8% Northeast

Source: PowerProducts Marketing, 2012 U.S. Sales Data
Estimated Worldwide Sales of ROVs and ATVs

Source: Compiled from Annual Reports of Polaris Industries.
ROV Exposure

• Surveyed attendees of the 2015 and 2016 Iowa FFA Leadership Conference.

• 2075 surveys completed
ROV Exposure

**Owned an ROV**

35%

Farm families had higher ROV ownership (77%)

**Ever Ridden a ROV**

81%

**Ridden in the Past Year**

66%

Occupational
ROV Riding Frequency in Past Year

Occupational

- A Few Times: 32%
- Monthly: 19%
- Weekly: 24%
- Daily: 26%

Recreational: 54%

- 36%
ROV Exposure

• Those living on farms had higher proportions with occupation exposure (74%)

• Higher % of males had ROV occupational exposure (77% vs. 57%).

• Males more frequent riders compared to females both occupational and recreational.

All comparisons with p<0.001
Farm Progress Show ROV Study

- Surveyed visitors to the 2014 Farm Progress Show in Boone, Iowa
- 55% lived on a farm
- 32% family currently owned a side-by-side
Driven/Ridden in an SxS in the Last Year?

- Yes: 72%
- No: 28%

Purpose of riding:
- Rec only: 24%
- Occ only: 29%
- Rec & Occ: 47%

Recreational Use: 71%
Occupational Use: 76%
### Frequency of ROV Use over the Past Year

<table>
<thead>
<tr>
<th>All Riding</th>
<th>Occupational</th>
<th></th>
<th>Recreational</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N (%)</td>
<td></td>
<td>N (%)</td>
<td></td>
</tr>
<tr>
<td>Almost daily</td>
<td>28 (26.7)</td>
<td></td>
<td>20 (20.2)</td>
<td></td>
</tr>
<tr>
<td>About once/week</td>
<td>34 (32.4)</td>
<td></td>
<td>18 (18.2)</td>
<td></td>
</tr>
<tr>
<td>About once/month</td>
<td>19 (18.1)</td>
<td></td>
<td>16 (16.2)</td>
<td></td>
</tr>
<tr>
<td>A few times/year or less</td>
<td>24 (22.9)</td>
<td></td>
<td>45 (45.5)</td>
<td></td>
</tr>
</tbody>
</table>

- 59% of ROVs were used almost daily for occupational purposes.
- 38% of ROVs were used almost daily for recreational purposes.

The N for each variable changes due to missing survey values.
Safety Behaviors ROV
Ridden on **Unpaved** Public Road in Past Year 98%

Nearly one-half (45%) reported doing so at least weekly

Ridden on **Paved** Public Road in Past Year 77%

Over one-third reported doing so at least weekly

**Helmet Use**

Always/Almost Always 11%

Never, Almost Never 79%

**Restraint Use**

Always/Almost Always 31%

Never, Almost Never 49%
## Farm Progress Show

### Frequency of ROV Use over the Past Year

<table>
<thead>
<tr>
<th>Riding on a paved public road</th>
<th>Occupational</th>
<th>Recreational</th>
</tr>
</thead>
<tbody>
<tr>
<td>Almost daily</td>
<td>14 (13.3)</td>
<td>17 (16.8)</td>
</tr>
<tr>
<td>About once/week</td>
<td>20 (19.0)</td>
<td><strong>32%</strong></td>
</tr>
<tr>
<td>About once/month</td>
<td>22 (20.9)</td>
<td>19 (18.8)</td>
</tr>
<tr>
<td>A few times/year or less</td>
<td>38 (36.2)</td>
<td>43 (42.6)</td>
</tr>
<tr>
<td>Never</td>
<td>17 (10.5)</td>
<td>4 (4.0)</td>
</tr>
<tr>
<td>Riding on a unpaved public road</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Almost daily</td>
<td>20 (17.1)</td>
<td>11 (11.6)</td>
</tr>
<tr>
<td>About once/week</td>
<td>37 (31.6)</td>
<td><strong>49%</strong></td>
</tr>
<tr>
<td>About once/month</td>
<td>31 (26.5)</td>
<td>13 (13.7)</td>
</tr>
<tr>
<td>A few times/year or less</td>
<td>24 (20.5)</td>
<td>36 (37.9)</td>
</tr>
<tr>
<td>Never</td>
<td>5 (4.3)</td>
<td>25 (26.3)</td>
</tr>
</tbody>
</table>

**Safety Device Use among Occupational Riders**

Restraint use: Never and Almost Never 38% (37% Always and Almost Always)

Helmet use: Never and Almost Never 70%
The most important safety rule is to always wear the seat belt!
Never carry more passengers than spots with seat belts, and no passengers in the bed.
Keep extremities within the protection of the rollover structure
Most newer vehicles have a net or a small door to help prevent riders from extending their leg out during a rollover.
Helmet use is recommended by manufacturers.
Helmets may be wise when driving on the road or when there is any increased risk of rollover.
Most ROVs are not designed for or recommended to be driven by children <16 years of age.

Children who cannot rest their feet on the floor with their back against the seat while restrained should not ride the ROV.
Owner’s manuals usually state that there should be no passengers less than 12 years of age.
Kara Meyer, 6 years old, was unrestrained and ejected during a rollover and pinned by the ROV.

428 crashes with 899 vehicle occupants
95% were NOT wearing a helmet

73% were NOT wearing their seat belt or harness system

Alcohol use in drivers ≥ 16 Years
55% of Non-Fatally Injured
47% of Fatalities
• Roadway crashes
  – 55% of fatalities
  – 57% of non-fatal injuries

• Road surface type
  – 35% paved
  – 65% unpaved

Press-Clipping Study
About 1 in 5 ROV crashes on roadways involved another motorized vehicle.
Crash Mechanism

- 93% Rollovers
- 95% Sideways
- 80% Turning
- 62% Left
82% of those unrestrained were fully or partially ejected.

- Ejected riders were 8 times more likely to have died than riders who weren’t ejected.

- Riders pinned by the vehicle were almost 5 times more likely to have died.
<table>
<thead>
<tr>
<th>Category</th>
<th>Percentage</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Occupational</td>
<td>14%</td>
<td>Past Year</td>
</tr>
<tr>
<td></td>
<td></td>
<td>14% Sought Medical Attention</td>
</tr>
<tr>
<td>Recreational</td>
<td>12%</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>15%</td>
</tr>
</tbody>
</table>
ROV Crash Mechanisms in Past Year

**Occupational**
- Collision with Motor Vehicle: 38%
- Collision with Object: 19%
- Rollover: 43%

**Recreational**
- Collision with Motor Vehicle: 39%
- Collision with Object: 19%
- Rollover: 42%
ROV Crash

• Those living on a Farm were more likely to have had both an occupational and recreational crash than those living in Country/Not Farm and in Town.  \( p=0.0004 \) and \( p=0.022 \)

• Having been in a crash in the past year was not associated with riding frequency.
Farm Progress Show
Prevalence of ROV Crashes

• 15% reported a lifetime occupational crash
  – 37% had a crash in the last year

• Person injured in 38% of the crashes
• Of those injured, 1/3 sought medical attention
Case Study 2

- 13 year old male
- Riding alone in a Yamaha Rhino pulling a sprayer
- Turning from tar road onto gravel farm road
- Started to rollover and over-compensated with steering and rolled over the other way
- Not wearing safety belt
- Pinned under vehicle
- Stepfather was following and helped get vehicle off victim
- Multiple trauma
- Altered consciousness
- Internal organ injuries
Case 2: Multiple Trauma
Case 2: Multiple Trauma
Agricultural ATV Deaths and Injuries

Few studies have focused on ATV and SxS-related occupational deaths and injuries.
Most ATV injuries and deaths on farms are from recreational use as well.

U of I study ATV-related injuries from 2002-2008

– All occupational-related injuries were in agriculture
More than half involved herding or chasing cattle.

Unexpected terrain changes and distraction with the task at hand were likely contributing factors.
Iowa Fatality Assessment & Control Evaluation (FACE) Program

29 ATV work-related fatalities from 1996-2014

- All agriculture related.
- 86% of victims were male
ATV occupational deaths appear to have a very different age distribution than recreational fatalities.
Fatality rate increased with age

- Workers $\geq 65$ years of age in the ag production industry had the highest risk of fatality
  - More than twice the fatality rate of other ag workers.

Mechanism of Injury

Rollover - 79.3%
MV Collision - 10.3%
Ejection - 6.9%
Unknown - 3.4%

Cause of death in rollovers
- 100% Pinned and most died from traumatic asphyxiation
Work Activity at the Time of the Fatality

- Spraying: 34%
- Checking Fields, Livestock, Fences: 28%
- Herding Cattle: 14%
- Roadway Transit: 14%
- Unknown: 7%
- Other: 3%

Over 1/3!
Spraying: Hauling of any liquid cargo can be a huge risk for rollover with shifting of the fluid, especially when on a slope.
• Surveyed participants of the Private Pesticide Applicator Course performed by Iowa Extension and Outreach from Dec 1, 2015-April 15, 2016.
• 6,322 private pesticide applicators completed the course and evaluation form.
• Nearly 2/3rds (65%) reported having used an ATV for spraying.
• Of these, 8% had been in a crash while spraying with an ATV.
Loads or shifting of loads contributed to rollovers in other ATV work-related deaths.
The maximum rack loads are often lower than one might expect.
For example, for both the 250 cc and 400 cc Polaris Trail Blazer:
- Maximum front rack load is 30 pounds
- Maximum rear rack load is 60 pounds
For a larger ATV example, the Polaris Sportsman 800 cc has a maximum weight capacity of 1200 lbs.

- But:
  - Maximum front rack load is 100 pounds
  - Maximum rear rack load is 200 pounds

Allows for a 900 pound operator when carrying maximum loads on the racks!
Activity at Time of Fatality for UTVs (N=9)

- Checking Fields/Livestock/Fences: 33%
- Roadway Transit: 45%
- Herding Cattle: 22%
- Spraying: 0%
- Unknown: 0%
- Other: 0%
Roadway Deaths

16% of the ATV/ROV deaths occurred on the road
6/8 involved vehicle collisions
Iowa Agriculture Fatalities

• None of the victims were helmeted

• None of ROV cases were seat belted.

• None of the victims were under the influence of alcohol or drugs

• All pediatric deaths occurred while child was on an adult-sized ATV.
Iowa FFA Members--Training
(2018, n=971)

17% Taught myself

72% Family member

9% Non-family member (not an organized course)

1% Organized ATV safety-training course, no hands-on training

1% Organized ATV safety-training course with hands-on training
Iowa ATV Safety Task Force

2010-2014

Kohl's Cares
Committed to Kids’ Health and Education

2014-Present

Grinnell Mutual
Trust in Tomorrow.
Conclusions

• ATVs and ROVs are extremely common on U.S. farms and ranches.
• Most operators and riders are not following basic safety behaviors.
• Develop and require training for employees that use off-road vehicles (ORVs).
• Have rules regarding the use of ORVs including:
  – No passengers on ATVs
  – PPE including helmets on ATVs
  – Always using the seat belts in ROVs
  – Only riding on public roads for agricultural work when absolutely necessary.
• Widespread efforts are needed to educate agricultural employers and rural families regarding ORV safety and injury prevention.
Questions/Discussion
Farm & Ranch ATV SAFETY

ATV and Animal Handling

- Approach at low speeds to avoid startling the animals.
- Don’t panic—animals are causing your trouble, don’t just react. If you do, you’ll likely hurt more than the animal.
- Be observant when making turns at higher speeds. Held or sudden turns can cause the animal’s reaction;
- You might flip the ATV if you try to keep pace.
- Remember, you are working with the animal. Slow ATV riders may appear less imposing to the animal and cause less resistance than if they were moving fast.
- Using the handbrake or the engine kill, instead of getting hauled by physically.
- If you don’t have a job, don’t ride alone. Be aware of all other vehicles on the road.
- If you are moving animals, use ATV for a complete headlight with a brake light.
- Carry extra water on an ATV for your family, use a headlight with a brake light.

Farm & Ranch ATV SAFETY

Spraying with ATVs

- Don’t use an interior pump system.
- Keep water balanced—use a spray system with the least practical center of gravity. (Weighting) liquid can significantly change ATV handling.
- Use a sprayer tank that has internal baffles. This will reduce liquid surge and improve overall stability when spraying on slopes or hills.
- Choose boom that can be operated to low to the ground as possible or use a manual sprayer.
- ATVs should only be fitted withumped-in sprayer booms or other equipment to reduce the risk of personal injury.
- Don’t ride and sprayer when using a swivel. If you are using the tripod, make sure that the swivel is not fixed while you’re spraying.
- Avoid using spray heads to avoid losing control of the ATV.

- Only travel the speed that you need—the optimal speed for good spray distribution is probably slower than you’d think. Higher speeds mean greater chances of missing your target, and worse, possibly losing control of the ATV.

Buck stops here—high speed means higher chances of losing control, especially if you’re carrying extra weight.
Agricultural ATV/SxS Safety Workshop

- Presented in conjunction with the Rural Health and Safety Clinic of Greater Johnson County.
- Conducting a pilot study funded by the Great Plains Center for Agricultural Safety and Health.
Liability

• As an employer, farmers are responsible for:
  – Training workers
  – Assessing each person’s competence before authorizing a worker to perform a task
Liability

- Anyone who operates an ATV on a farmer’s property or on their behalf (whether worker, family member, or guest) should be properly trained.
- ATV operations requires a strong combination of skill, good judgment, attention and physical strength.
Liability

- Allowing a worker to utilize an ATV without proper training and safety precautions
  - including recommendations as per warning labels on the vehicle or state laws (i.e. wearing helmets and no passengers)

Could put the farmer, as an employer, at significant liability risk if the worker has an injury
Liability

• Another significant liability risk, is allowing others to ride the vehicle for recreational purposes without proper safety training or safety precautions

• This is a particularly a problem related to children who may not have parental or legal guardian permission to drive an ATV and then drives a farmer’s ATV or drives on their property
Liability

• Even if they have parental permission, an injured child’s parents may expect or assume that safety precautions are being properly enforced
  – Such as riding the right size machine, helmet use, no passengers, not riding on a road

• May very well hold the family legally responsible for the injury
Liability

- Will want to check to make certain you have adequate insurance related to ATV-related liability issues
National Farm Medicine Center
2015 and 2016

• ATVs/SxSs second most common source of injury in agriculture across all ages
• Leading cause of injury in agriculture among youth (0-17)

https://www.liveabout.com/buying-a-used-atv-4260
Every hour about 11 people are seen in a hospital ED with an ATV-related injury.
Estimated Annual ATV-Related Fatalities

- 1994: 291
- 1996: 291
- 1998: 743
- 2000: 800
- 2002: 922
- 2004: 800
- 2006: 743
- 2008: 700
- 2010: 700
- 2012: 700
- 2014: 700
- 2016: 700
57% reported having been in an ATV crash (rolled over, hit something, or fallen off).
Patients who had self ejected or were thrown/fell to the side experienced the worst extremity injuries.
FACE Data Study of SxS Occupational Deaths

- Two of the deaths involved 7 year old children:
  - 10 year-old sister was backing up the SxS to have the 7 year-old brother connect vehicle to a flatbed wagon for baling hay.
  - 7 year-old was checking cattle while driving the SxS as directed by a parent and rolled the vehicle over.
Until 2009, youth ATV size recommendations were based on engine displacement.

<table>
<thead>
<tr>
<th>Age</th>
<th>Recommendations</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;6</td>
<td>No ATV</td>
</tr>
<tr>
<td>6-11</td>
<td>70 cc or less</td>
</tr>
<tr>
<td>12-15</td>
<td>90 cc or less</td>
</tr>
</tbody>
</table>
Most ATV injuries and deaths on farms are from recreational use as well.

U of I study of 331 patients with ATV-related injuries from 2002-2008

– Only 14 were clearly identified as an occupational related injury
  • All were in agriculture