

Purpose

Determine the prevalence of all-terrain vehicles (ATVs) on Kentucky farms, describe the exposure of members of farm households to ATVs, and explore farmers' perceived risk of using ATVs.

Background

- KY ranks 4th in # farms in U.S. with 83,000 farms over 13,700,000 acres, 54% of the total acreage of the state (KASS, 2007)
- KY ranked 1st in ATV fatalities in 2007 and 2008, and 4th in cumulative deaths since 1982 (CPSC, 2008)
- 9.5 million ATVs in use in 2007, with an estimated 542 deaths and 146,500 injuries treated in ER (Risk estimate 153.9/10,000 4-wheel ATVs in use) (CPSC, 2008)
- Estimated ownership of ATVs on farms in the southern region in 2001 was 481 (± 27) per 1,000 farms (Goldcamp et al., 2006)
- 36% of 1.1 million children living on farms in 2001 had operated an ATV in that year (Hendricks et al., 2005)
- Living on a farm where there were ATVs in use was identified as an injury risk factor for youth in farm households (RR = 1.23, 95% CI 0.96-1.59) (Gerberich et al., 2001)

Design

- Cross-sectional descriptive study
- Mail survey to stratified random sample of 4,500 farms in Kentucky
- Inclusion Criteria: Individuals ≥ 18 years of age who live on a 10 acre or larger farm that is in active operation

Results

- Mail survey response rate 53% (N = 2292)
- 53% of farm households owned at least 1 ATV (\bar{x} = 1.44, SD ± 0.9, Range 1-10).
- 93% of farmers reported never wearing a helmet when riding ATVs.
- 10% of the farm head of households had attended an ATV safety course.
- 13% (153) of the farmers who owned ATVs reported having an ATV-related injury in their lifetime.
- 5% of respondents from households without ATVs also reported being injured on an ATV.
- The mean perceived risk of riding an ATV was high among farmers regardless of ATV ownership; however, farm households without ATVs had a statistically significant higher mean score compared to households with ATVs regardless of injury status ($\chi^2 = 11.62$, $p = 0.0030$)

Utilization of ATVs on Kentucky Farms

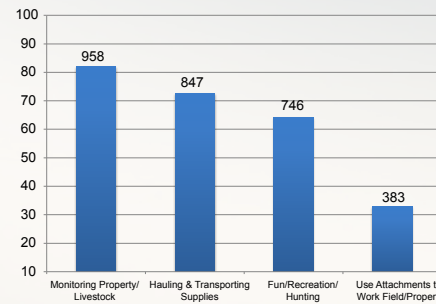


Table 1: ATV Riders in Kentucky Farm Households (n = 2107)

Demographic	n	%
Age in years (\bar{x} = 43.61, SD 19.48, Range 1-91 years)		
< 5	6	0.2
5-12	138	6.5
13-15	74	3.5
16-21	208	9.9
22-64	1337	63.5
≥ 65	283	13.4
Unknown	61	3.0
Gender		
Male	1359	64.5
Female	696	33.0
Unknown	52	2.5
ATV riding experience in years (\bar{x} = 15.01, SD = 10.24, Range 1-63)		
Position on ATV		
Operator Only	936	44.4
Passenger Only	55	2.6
Ride as Operator & Passenger both	1032	49.0
Unknown	84	4.0
Ever Injured on ATV		
Yes	200	9.5
No	1836	87.1
Unknown	71	3.3

*These riders represent 1206 farm households with ATVs.

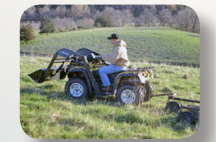
Table 2: ATV-Related Exposures in Head of Household on Kentucky Farms

Characteristic	N	\bar{x}	SD	Range
Purpose of ATV Use on the Farm (% of time)				
Work	1117	63.0	35.9	0-100
Leisure	1092	26.8	30.6	0-100
Age 1st Rode ATV				
	1106	33.0	16.6	1-82
ATV Riding				
Days/Month	1115	14.3	10.1	0-30
Hours/Day	1115	1.56	1.5	0-20
Passengers (Hours/10 Hours)				
Carry Passenger	1099	1.06	1.94	0-10
Ride as a Passenger	1082	0.55	1.5	0-10
Helmet Use (hours/10 Hours Riding)				
	1108	0.42	1.79	0-10

Table 3: All-Terrain Vehicles Owned by Farm Households

Characteristic	n	%
# Wheels		
3- wheel	55	3.6
4- wheel	1386	91.8
Unknown	69	4.6
Engine Size (\bar{x} = 360, SD 138.16, Range 14-950)		
≤ 90 cc	443	29.3
≥ 90 cc	1067	70.7
Condition of Vehicle at Purchase		
New	884	58.6
Used	592	39.2
Unknown	34	2.2
Obtained From		
Dealer	929	61.5
Owner	481	31.9
Unknown	100	6.6

*1510 ATVs were described in detail and they ranged from model year 1970-2009.



Conclusions

- ATVs are common on Kentucky farms and are used for farm work and leisure.
- ATV exposure and injuries occur across the lifespan in farm households. ATVs are not recommended for children under 16, but > 12% of the ATV riders on Kentucky farms are children.
- Older farmers are a vulnerable population who make up > 13% of ATV riders on farms and should be included in future studies.
- Educational interventions tailored to ATV use on farms are necessary for prevention of injury to members of farm households.