

In 2011, there were an estimated 4,355,000 tractors in operation on 2,181,630 farms and ranches in the United States. This estimate is based on a telephone survey of 25,000 farm operators conducted by USDA's National Agricultural Statistics Service (NASS) for the National Institute for Occupational Safety and Health (NIOSH).

Tractors are the leading cause of occupational fatalities in agriculture. Of the estimated 4.4 million tractors in operation on farms and ranches in 2011, 2,563,000 or 59% were equipped with a roll-over protective structure (ROPS), a proven engineering control in the prevention of tractor overturn deaths. More than 3,000 operations were estimated to have at least one tractor overturn in the previous 12 months; 1,600, or 53% of these overturned tractors were equipped with ROPS.

All-terrain vehicles (ATVs), another source for injury, are common on agricultural operations. In 2011, there were an estimated 1,580,000 ATVs in use on farms and ranches, 1,385,000, or 88%, of which were used for work. Of the ATVs used for work, 107,000, or 8%, were equipped with a power-take-off (PTO) drive. The most common work tasks for which an ATV was used were general farm transportation, moving materials, spraying, and moving livestock. In 2011, there were an estimated 836,000 ATVs used for general farm transportation, 541,000 were used to move materials, 332,000 were used

in spraying, and 309,000 were used for moving livestock. Over 119,000 operations had youth less than 16 years of age who operated an ATV.

Storage facilities commonly found on farms and ranches can create a variety of hazards. For example, manure storage facilities can produce toxic environments. Silos and grain bins can expose operators and workers to hazards such as grain engulfment. In 2011, 98,000 operations were estimated to have manure storage on the operation, with approximately 13% of the 127,000 manure storage facilities being enclosed pits. An estimated 19,000 operators entered an enclosed pit in the last 12 months. An estimated 361,000 farms and ranches have a silo and/or grain bin storage. Of the 770,000 estimated grain bins, less than 8% were equipped with a harness and life line system attached to the center of the ceiling to prevent individuals who entered the bin from being engulfed by grain.

NIOSH sponsored this survey to better understand the magnitude and scope of hazardous exposures on agricultural operations. The survey was conducted as part of the NIOSH Agricultural Injury and Health Initiative. For further information, contact Michael Goldcamp, NIOSH, at (304) 285-5951 or Kevin Harding, NASS, at (202) 720-4028.

## 2011 Farms and Ranch Safety by Region and United States

Region	Tractors			All-terrain vehicles		Storage facilities		
	Farms (number)	Total (number)	ROPS equipped <sup>1</sup> (number)	Total (number)	Used for work (number)	Grain bins (number)	Silos (number)	Manure storage (number)
Northeast <sup>2</sup>	141,570	324,000	166,000	79,000	66,000	14,000	38,000	18,000
Midwest <sup>3</sup>	796,200	1,954,000	1,073,000	595,000	526,000	625,000	195,000	75,000
South <sup>4</sup>	916,600	1,514,000	959,000	608,000	526,000	73,000	40,000	17,000
West <sup>5</sup>	327,260	564,000	366,000	297,000	267,000	58,000	9,000	16,000
United States <sup>6</sup>	2,181,630	4,355,000	2,563,000	1,580,000	1,385,000	770,000	282,000	127,000

<sup>1</sup> Roll-over protection structure.

<sup>2</sup> CT, ME, MA, NH, NJ, NY, PA, RI, and VT.

<sup>3</sup> AL, AR, DE, FL, GA, KY, LA, MD, MS, NC, OK, SC, TN, TX, VA, and WV.

<sup>4</sup> IL, IN, IA, KS, MI, MN, MO, NE, ND, OH, SD, and WI.

<sup>5</sup> AK, AZ, CA, CO, HI, ID, MT, NV, NM, OR, UT, WA, and WY.

<sup>6</sup> Estimates may not add due to rounding.