Birth Rates for Teenagers — Continued

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Use of Rollover Protective Structures — Iowa, Kentucky, New York, and Ohio, 1992–1997

Agriculture has one of the highest occupational fatality rates of all industries in the United States (*1*). Tractors and other types of agricultural equipment account for a large proportion of these fatalities, and farm-tractor rollovers account for approximately 130 work-related deaths each year in the United States (*2*). Although rollover protective structures (ROPS) are effective in protecting tractor operators from fatal injuries during rollovers (*3–5*), most tractors in the United States are not equipped with ROPS (*4–7*). Beginning in 1985, tractor manufacturers in the United Sates agreed to sell only tractors with ROPS; however, many older tractors without ROPS remain in use. To determine the prevalence of the use of ROPS, beginning in 1992, the Farm Family Health and Hazard Surveillance (FFHHS) program* collected state-based data on tractor age and use of ROPS from selected states. As of August 1997, four states had completed collection and analysis of data on farm tractors. This report summarizes the results of that survey, which indicates that 80%–90% of tractors in use in the four states were manufactured before 1985 and that <40% are equipped with ROPS.

*A cooperative agreement program funded by CDC's National Institute for Occupational Safety and Health to provide descriptive health and hazard data for a sample of farms in six states.

Rollover Protective Structures — Continued

FFHHS included population-based, cross-sectional surveys of health conditions and exposures to workplace hazards among farmers in six states (California, Colorado, Iowa, Kentucky, New York, and Ohio). For this report, data from four of these states were analyzed, including use of ROPS (Iowa, Kentucky, New York, and Ohio), year of tractor manufacture (Iowa, Kentucky, and Ohio), and the mean annual usage for these tractors (Iowa). The design of the surveys varied slightly from state to state. ROPS data were collected through a combination of telephone interviews (Iowa and Kentucky) and/or on-farm observational walkthroughs (Kentucky, New York, and Ohio).

Sampling frames varied by state and included all farms in the respective geographic study areas (Iowa and New York), only farms operated by farmers aged ≥55 years (Kentucky), and only cash grain farms (Ohio). The surveys were designed to provide prevalence estimates either for a specific geographic area within the state (New York and Ohio) or statewide (Iowa and Kentucky). State-specific prevalence estimates were based on numbers of sampled farms and tractors: Iowa—344 farms, 1128 tractors; Kentucky—149 farms, 282 tractors; New York—580 farms, 2513 tractors; and Ohio—315 farms, 919 tractors.

The proportions of tractors with ROPS varied inversely with the age of the tractors, and the numbers of older tractors in use at the time of the survey were substantial. Overall, the percentage of tractors equipped with ROPS was greatest in Iowa (39.5%) followed by New York (38.6%), Ohio (34.3%), and Kentucky (26.9%) (Table 1). The percentage of tractors manufactured since 1985 that were equipped with ROPS ranged from 79.7% (Kentucky) to 91.5% (Ohio). However, among tractors manufactured during 1955–1964 (approximately 15% of all tractors), <5% were equipped with ROPS, and among tractors manufactured before 1955 (approximately 13% of tractors), <1% were equipped with ROPS.

In Iowa, information was collected about the annual hours of use of tractors with and without ROPS (Table 2). Approximately 70% of tractors without ROPS in Iowa, representing an estimated 114,246 tractors statewide, were used for >100 hours each year. In 1995, the Iowa FFHHS asked farmers about tractors they had purchased during the previous year. A total of 45 farmers reported having purchased 63 tractors with a mean age of 18 years. Of these tractors, 25 (40%) were not equipped with ROPS.

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Editorial Note: The number of tractors in the United States equipped with ROPS has been estimated by CDC's Traumatic Injury Surveillance of Farmers (TISF) survey. TISF contains data from a random sample of farming operations across the United States and provides information on lost-time, work-related farm injuries and data about farm tractors used on these farms. Based on information for 1993, TISF indicated that the hours of tractor use, distribution of the age of tractors in use, and ROPS-use patterns were similar to those presented in this report for Iowa, Kentucky, New York, and Ohio (*6*).

Rollover Protective Structures — Continued

TABLE 1. Number and percentage of all tractors and percentage of tractors with rollover protective structures (ROPS), by state and year of manufacture — Iowa, Kentucky, New York, and Ohio, 1992–August 1997

State/Year of manufacture	No.*	(%)	% With ROPS
Iowa			
<1955	32,895	(12.8)	0.6
1955–1964	42,493	(16.5)	3.8
1965–1974	82,298	(32.0)	29.4
1975–1984	71,627	(27.8)	70.4
≥1985	28,155	(10.9)	89.5
Total	**257,468**	**(100.0)**	**39.5**
Kentucky			
<1955	24,751	(12.5)	0
1955–1964	28,315	(14.3)	0
1965–1974	41,185	(20.8)	0
1975–1984	61,778	(31.2)	32.2
≥1985	41,978	(21.2)	79.7
Total	**198,007**	**(100.0)**	**26.9**
Ohio			
<1955	127	(13.8)	0
1955–1964	131	(14.3)	3.8
1965–1974	277	(30.1)	17.3
1975–1984	278	(30.3)	68.3
≥1985	106	(11.5)	91.5
Total	**919**	**(100.0)**	**34.3**
New York†			
Total	**2,513**	**(100.0)**	**38.6**

*Iowa and Kentucky reported weighted estimates for tractors statewide; New York and Ohio reported numbers of tractors in the survey sample of counties or regions.
†New York has not completed analysis of year of manufacture.

TABLE 2. Number and percentage of tractors with and without rollover protective structures (ROPS), by annual hours of use — Iowa, 1992–August 1997

	Tractors with ROPS		Tractors without ROPS	
Annual hours of use	**No.**	**(%)**	**No.**	**(%)**
<100	6,341	(6.4)	46,271	(28.8)
100–200	29,459	(29.6)	67,118	(41.8)
201–400	44,177	(44.4)	32,747	(20.4)
>400	19,628	(19.7)	14,381	(9.0)
Total	**99,605**	**(100.0)**	**160,517**	**(100.0)**

In 1993, an estimated 4.8 million tractors were in use on U.S. farms (*6*). Of these, only 38% were equipped with a ROPS. However, 87% of the farm tractors manufactured since 1985 are reported to be equipped with ROPS, and 92% of the farm tractors manufactured since 1990 were equipped with ROPS. In comparison, for farm tractors aged ≥30 years (approximately 28% of tractors on farms), <5% are equipped with ROPS.

Rollover Protective Structures — Continued

The increase in installation of ROPS on tractors beginning in the mid-1980s especially reflects the 1985 American Society of Agricultural Engineers (ASAE) voluntary standard on ROPS (*8*)—this standard encouraged all manufacturers of farm tractors to install ROPS on all new tractors (tractors used in orchard and vineyard operations were exempted because of limitations of vertical clearances). Most tractor manufacturers responded to the voluntary standard by developing ROPS suitable for use on all types of farm tractors currently being manufactured. In addition, most manufacturers have developed ROPS retrofits for use on many older tractor models. Retrofit kits, including safety belts, are now offered to farmers at the manufacturer's cost. The combined use of safety belts and ROPS provide tractor operators with a high level of protection by ensuring that the operator remains within the zone of protection of the ROPS in the event of a rollover.

The ASAE standard has contributed substantially to reducing the risk for tractor-rollover–associated injuries among farmers and farm workers. However, no effective national program has been implemented to encourage retrofitting ROPS on the approximately 3 million tractors without ROPS that are currently in use on farms. CDC's National Institute for Occupational Safety and Health (NIOSH) and the Occupational Safety and Health Administration (OSHA) encourage the use of ROPS and safety belts on all farm tractors in the United States, and OSHA maintains a standard that requires ASAE-approved ROPS to be placed on all farm tractors manufactured after 1976. The OSHA standard is not actively enforced on farms with <11 employees, and family farms without other employees are exempt from OSHA regulations. NIOSH can promote ROPS use but has no authority to require their use.

In September 1997, the University of Iowa sponsored the Tractor Risk Abatement and Control Policy Conference in Iowa City, Iowa. A main focus of this conference was to identify innovative policies and programs to encourage installation of ROPS on tractors and to promote use of safety belts with ROPS.

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State-Specific Birth Rates for Teenagers — United States, 1990–1996

During the late 1980s, birth rates for teenagers in the United States increased sharply. Although rates have declined steadily since 1991 (*1,2*), age-, race-, ethnicity-, and state-specific rates have varied substantially. Despite recent declines, the U.S. birth rate for teenagers remains high compared with other industrialized countries. In 1996, an estimated 505,514 females aged <20 years gave birth; two thirds of births to teenagers are unintended (*3*). The adverse consequences of teenage childbearing include increased poverty for both mother and child. This report presents state-specific birth rates for females aged 15–19 years for 1991 and 1995 and compares race/ethnicity-specific birth rates for U.S. females aged <20 years for 1990–1996. These findings indicate that, during 1991–1995, birth rates among teenagers declined significantly in all but five states and the District of Columbia, and declines nationwide during 1991–1996 were especially large for teenagers aged 15–17 years and for black teenagers. Recent declines in abortions and abortion rates for teenagers, coupled with the trends described in this report for birth rates for teenagers, indicate that, since 1991, pregnancy rates for teenagers also have declined.

Data for 1990–1995 (the most recent year for which state-specific data were available) were derived from the complete file of all births registered in state vital statistics offices (*1,4*). Data for 1996 were derived from preliminary files containing 94% of births; the preliminary data series was initiated in 1995 (*2*). Births were reported by mother's state of residence. Population denominators for the birth rates were obtained from the Bureau of the Census (*5,6*). Race/ethnicity-specific data are presented for Hispanics, non-Hispanic whites, blacks, American Indians/Alaskan Natives, and Asians/Pacific Islanders. Data for non-Hispanic blacks are not presented separately from data for all blacks because both sets of data are virtually identical (97% of births to blacks are to non-Hispanic females). Because preliminary data for 1996 were not available for race/ethnicity cross-classification, the most recent data for non-Hispanic white females were for 1995.

The preliminary birth rate for teenagers aged 15–19 years in 1996 was 54.7 births per 1000 females aged 15–19 years, a 4% decline from the rate for 1995 (56.8) (Table 1). From 1986 to 1991, the rate increased 24% (from 50.2 to 62.1) (*1*); however, from 1991 to 1996, the rate declined 12%. Although rates declined in all subgroups, the percentage decline was greater for teenagers in younger age groups (14% for those