



NORTH CAROLINA FARM BUREAU

Reduce Your Farm Machinery Road Accidents

It's late in the afternoon during spring planting and you are hauling a planter to the next field. Without warning, a car hits your planter from behind.

You're moving a trailer of hay from the field before weather turns bad. As you slow down to turn left into the hayshed, a car trying to pass sideswipes your tractor.

Both situations are common in NC. Between January 2010 and December 2014, there were 976 accidents involving farm machinery on roadways with 529 injuries and 21 fatalities.

The most common accidents occur when the approaching motorist hits a farm vehicle from behind (rear-end collision), or when a passing motorist hits a farm vehicle that is attempting to make a wide left turn (left sideswipe). These two situations accounted for the majority of accidents in NC involving a farm vehicle.

Differences in Speed

When a farm vehicle is involved in an accident in the public right-of-way, there is a most often a large difference in the speed of the two vehicles. A passenger vehicle traveling 55 mph approaches a tractor traveling in the same direction at 15 mph. The car is approaching the tractor at 59 feet per second. If the car does not slow down, it reduces the distance between itself and the tractor by the length of a football field in just 5 seconds.

Motorists can quickly come up on farm equipment unless they brake as soon as they see the equipment. However, a car travelling at 55 mph requires 224 feet of total stopping distance for average reaction time and braking. Therefore, the driver of the car in the previous example would have only a few seconds to decide to slow down and avoid a collision with the farm equipment.

When two vehicles collide in an accident, a rough measure of the amount of energy that must be absorbed by metal, brakes, bodies, etc. is the difference in the square of the two vehicles' speeds, if both vehicles are traveling in the same direction. If the two vehicles collide with a 40 mph difference in speed (55-15), there would be 2,800 units of energy on impact ($55^2 - 15^2$). A collision of two vehicles traveling at speeds of 45 mph and 55 mph has about a third as much energy on impact or 1,000 units of energy. When vehicles are traveling in opposite directions, energy increases.

Unfamiliarity with vehicle outline

Non-farm drivers may not immediately recognize farm equipment on roadways or be aware of the special hazards they present. Lighting and reflector locations on tractors, combines, and other equipment are different from other motor vehicles. Day or night, an unfamiliar vehicle outline may delay recognition of farm equipment by non-farm drivers.

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How Much Do You Know?

1. How many accidents on NC public roads involve farm vehicles every year?
 - a) 75
 - b) 150
 - c) 300
 - d) 500
2. What are the two most common types of farm vehicle accidents when two vehicles are involved.
3. Fatalities are _____ as likely to occur in accidents involving farm vehicles as opposed to other traffic accidents.
 - a) half
 - b) about
 - c) twice
 - d) five times
4. How long will it take a car traveling 55 mph to catch up to a tractor traveling 15 mph if they are 100 yards apart?
 - a) 5 seconds
 - b) 10 second
 - C) 20 seconds
5. Lighting and reflectors on farm vehicles are often not well maintained on the _____ of the vehicle.
 - a) front
 - b) rear

Answers on back

Loads on farm vehicles may be wider than other vehicles, which present special hazards for other motorists when left, right, rear, and front projections are not easily recognizable.

Poorly maintained warning signs

The slow-moving vehicle (SMV) emblem is recognizable to many non-farm drivers. It's important to maintain SMV emblems, as well as other reflectors, lighting, and equipment systems to provide maximum visibility of farm vehicles to other drivers. Because one of the most common farm roadway accidents is rear-end collisions, farm equipment operators should pay special attention to rear lighting and marking to ensure that equipment is properly marked and visible.

Not knowing operator intentions

Non-farm drivers may not understand farm equipment limitations or see hidden field entrances. For example, the road turning radius of many tractor-implement combinations requires the driver to steer right before making a wide left turn. A left turn signal on equipment might be blocked by another implement, or non-farm drivers might ignore the turn signal and think the tractor is turning right. The result is a left sideswipe of the farm equipment by the non-farm driver when trying to pass the farm equipment.

Watch for traffic to build up behind farm equipment. Stop when it is safe to

pull on to the shoulder of the road to allow built up traffic to pass.

Ways to avoid accidents

- Make sure you are visible. Maintain existing lighting and marking on farm equipment. Clean reflectors, light lenses, and mirrors of mud, snow, ice, manure, or other debris before entering public right-of-ways. Replace cracked lenses and burned-out bulbs. Repair wiring if necessary to make lights operative. Replace faded, bent, and torn SMV emblems. Maintain or add rear view mirrors to allow vision around the side of wagons or wide loads.
- Know the law. Become familiar with requirements of the NC DMV for lighting, flagging, and marking on farm equipment. Consider installing additional lighting and reflectors.
- Drive defensively. All roadway travel is a team effort between yourself and other drivers. Do not assume that other drivers will see you pulling out of driveway or anticipate your turn into a field. Allow plenty of distance before pulling in front of traffic. Assess alternate routes to the field/home and travel times to avoid high traffic if possible. In extreme high traffic areas, or curvy rural roads, consider having a designated passenger vehicle to follow your equipment as an escort with their

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What can you do?

- ◇ Repair or replace SMV emblems, lighting, reflectors, and/or flagging on farm equipment as needed. Inspect all each time equipment will be on a roadway.
- ◇ Determine if additional lighting, reflectors, or flagging is needed to make equipment more visible.
- ◇ Purchase and have replacement lights, reflectors, flagging, and SMV signs on hand before they are needed.
- ◇ Adjust travel routes if possible to avoid peak passenger travel times.
- ◇ Use an additional vehicle as an escort in high traffic or low visibility areas.
- ◇ Be aware of traffic behind you and that may not anticipate your movements, allow them to pass when possible.

Answers: 1-c, 2-Rear-end collisions and left sideswipe, 3-c, 4-a, 5-b

For more information, see NC Farm Bureau's Haulin' Ag Booklet, Fourth Edition

