

A CHILD'S PERCEPTION MAY NOT BE REALITY

Parents need to know when their child is ready to safely drive a tractor



There is more to operating a tractor than meets the eye, which might explain why tractors are involved in most fatal injuries to youth on farms.

Age and physical size are obvious when deciding whether a boy or girl is ready to drive a tractor. Not so evident is a child's perceptual development - that is, how well the child "sees" and understands the surrounding environment.

"When driving a tractor, 'vision' is the most important aspect of being safe," said David Schwebel, Ph.D., professor of psychology, University of Alabama at Birmingham.

Processing what is seen

"Vision" includes being able to process what is taken in through the eyes, and children are not as good as adults at being able to:

- Judge movement, speed, acceleration and deceleration
- Estimate distance

- Perceive slopes and terrain
- Estimate their own physical ability
- Scan the environment, looking for anything important

"Driving a tractor involves perceptions of speed, perception of movement, and perceiving how quickly other things are moving, be they vehicles, animals or people," Schwebel said. "It also includes judging distances. For instance, if you are towing an implement you need to have a very good sense of distances of fences and ditches so you can drive appropriately up to the border, but not over it. Mistakes can have dangerous consequences."

A more complex aspect of perceptual development is what researchers call "visual search."

"We know that experienced drivers constantly scan the environment, looking for things that may become hazardous, such as animals, pedestrians or cars that may pull out in their path. There

is strong evidence in laboratory studies that children are terrible at this," Schwebel said.

How drivers develop

Perception is one of five developmental components critical to safe tractor operation, along with physical (size and strength), cognitive (decision-making, impulse control), social (modeling, teaching, peer pressure) and socio-cultural (multi-tasking, lack of sleep) components.

Dr. Schwebel worked with the National Children's Center for Rural and Agricultural Health and Safety at Marshfield Clinic to incorporate these developmental components into the center's updated Agricultural Youth Work Guidelines (AYWG).

By going to CultivateSafety.org parents can view not only the updated AYWG tractor guidelines reflecting the latest scientific evidence, but also five posters addressing the perceptual, physical, cognitive, social and socio-cultural developmental components of tractor operations.

"We all recognize the value of children learning and engaging on the farm," Schwebel said. "We also recognize importance of keeping children safe while driving tractors, so that we get the work done efficiently and successfully, but also safely."

