

Tractor accidents account for a majority of the injuries and deaths that occur on farms, with tractor overturns being the leading cause of farm operator deaths.

CROPS Cost-effective Roll-Over Protective Structures

The CROPS Project seeks to reduce the number of tractor related injuries and fatalities in farm communities in the southeast by becoming a part of the culture of agricultural education programs.

196

Total CROPS Installed

980

Tractor Operators

81

Total Teachers/Schools/Communities

1127

Total Student Participants

Through the CROPS Project, Agricultural Education Students Learn About

- Hazards posed by non-ROPS tractors
- How to use NIOSH's CROPS plans
- How to construct and install proper
- ROPS on unprotected tractors



98%

Effective in Preventing Operator Deaths

When combined with safety belts



THEMES DISCOVERED WITHIN THE STUDY...

1) Community Connectedness element was the desire to keep community members safe by providing CROPS to farmers. One student describes this desire by saying, "It meant more because it leaves more of an impact on our community. I mean this is where we are from. It's not just a random place." Comments like these are found throughout the interviews. Concurrently, one student describes his aspiration for the CROPS project, "Just to keep people in the community safer than it was." There is heightened importance of this project to the students because they know the direct and positive impacts their agriculture program could have in improving the safety of community members. This message is brought to life by teachers inviting, per suggestion of the curriculum, the local Emergency Medical Services (EMS) to come and convey the importance of proper tractor and farm safety through real-life accounts. As one student describes this sense of importance, "Like imagine if something [were] to happen with [a tractor] and it saved the [farmers] life then that would be a good impact on us." Students having a clear vision of the community impact brings a strong community connection to the classroom and increases students' consciousness about creating a lasting change. One student from South Carolina stated:

Helping another farmer, making sure he stays safe while on his tractor in case a rollover does happen. Also, spreading awareness. If another farmer sees that he [has] a ROPS on his older tractor. Maybe it will influence him to get one.

Through Community Connectedness, the desire to keep the community safe is possible through community engagement that the teacher provides in their classroom.

2) The most frequent element of Youth-Adult Partnership (YAP) in the CROPS program is Natural Mentoring. The CROPS curriculum and the project's design create an environment for teachers to take on a mentorship role. Through the students' testimonies, the Natural Mentor element fosters the relationship between the teacher and the student. Therefore, allowing the students to take the lead on making their own decisions during the CROPS project. We see acts of Natural Mentors throughout agricultural education literature (Lamm, et al., 2017; Ball, et al., 2016; Bird, et al., 2013); however, limited to finding its benefits within curriculum development. It appears that NM is an inherent talent that is in agricultural education teachers; thus, it is to the profession's benefit to capitalize on this positive attribute and further encourage and evaluate within teaching methodologies.

One student in West Virginia described the teacher and student partnership as, "[The teacher] would be like in the backseat but let us take the project on as our own but would be there if we needed help." Another student from Mississippi described their teacher, "I could always count on [the teacher] to help me." students felt they knew their teacher was there to support and assist them, but this did not mean they were always given the answer, "[The teacher] would ask us questions to try to get us to answer." Teachers that support students to take ownership of projects allow the Natural Mentor element to emerge in the classroom.

As a result of these qualitative elements, we noticed that it played a major role in the behavioral intentions of the students. In a three-year study, we noticed a significant change in the student's intent once they made the farm decisions. We also noticed the power that pressures, and expectations set by the farm family, farming community, or the farm employer can have on the students perceived behavioral control as each year, the students decreased at the conclusion of the curriculum project. The curriculum shed some light on the students of truly what decisions and control they have as a high school student. This finding is changing the pedagogical approach of the curriculum to infuse more family interaction and integration.

Year	Attitude			Subjective Norms			Perceived Behavioral Control			Behavioral intent		
	t	p	MD	t	p	MD	t	p	MD	t	p	MD
2016 – 2017	2.44	0.02*	0.45	0.79	0.43	0.11	0.18	0.86	-0.03	3.68	0.01*	0.44
2017 – 2018	1.55	0.13	0.23	1.00	0.32	0.19	1.58	0.12	-0.27	3.03	0.01*	0.40
2018 – 2019	1.13	0.26	0.21	1.61	0.38	0.35	0.88	0.38	-0.16	3.27	0.01*	0.52