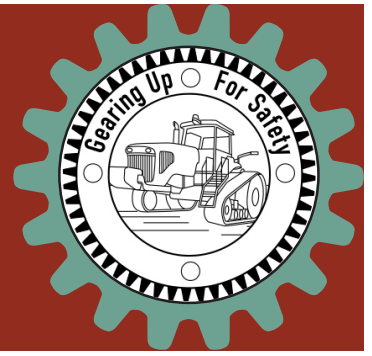


# GEARING UP FOR SAFETY

## Production Agriculture Safety Training for Youth

### *Written Exam*



#### **INTRODUCTION**

To assess participant's knowledge prior to certification, a written exam consisting of carefully selected and research-based test questions is essential. Questions need to be designed and tested to ensure that they function well and cover the most important information that youth need to know to safely work in agricultural production.

In some cases where lower literacy skills or language barriers exist it may be necessary to provide alternative testing formats. Participants, however, should still be expected to know or acknowledge the correct answers. Certain tasks and activities require reading skills for safe completion. Certification of individuals without appropriate reading skills, or appropriate accommodation such as providing alternative language formats, may place the youth at risk of injury.

A database of over 350 multiple choice or True/False questions has been developed that allows for designing tests to assess the participant's knowledge related to the certification requirements. Exam questions cover the contents of the HOOAs, the tasks that have been identified as having the greatest risk of injury, critical farm hazards, and desired minimum competencies needed to safely operate agricultural tractors and equipment and perform other hazardous farm work. The questions have been reviewed by a panel of agricultural safety and health specialists and educators and field tested with youth in the target population. This question pool can be accessed only by instructors who register on the GEARING UP FOR SAFETY official website ([www.agsafety4youth.info](http://www.agsafety4youth.info)).

A 70 question exam is included in this section that provides a representative cross section of questions in the database. Since it is not possible to test every participant for all topics covered in the HOOAs training, selection of a representative sample of questions becomes necessary. Research on testing methods has shown that a testing strategy of this type is a good indicator of student understanding or knowledge gain. The 70 items comprising this research-based test are randomly

drawn and balanced for content from the question pool. This selection approach ensures that all content areas are covered while not overusing items.

All exam items were subjected to an empirical item analysis and an expert review process to evaluate item functioning and establish content validity. Approximately 600 students have participated in the testing process. Based upon the research-based process, it is estimated that the final exam administered to a group of youth in the target age population (14-15) without the training will result in a mean score of 50-55% correct. Upon completion of the training program, the same exam issued as a post-test will result in a mean score of 75-80%. If used with older students (17-19) the pre- and post-exam scores are increased approximately 70-75% to 85-90% respectively.

The GEARING UP FOR SAFETY has developed a formal process for question selection, updating and addition to the question database. Questions being selected for incorporation into the database are believed applicable for testing students in any current training program designed to provide HOOAs certification. For more information on efforts to develop more consistent testing tools visit [www.agsafety4youth.info](http://www.agsafety4youth.info).

Currently, the HOOAs do not provide direction for establishing a "passing score" for the written component of the certification process. Utilizing an expert panel approach, a minimum score of 70% was derived for youth taking the final exam prior to advancing onto the next level of testing.

It is required with the GEARING UP FOR SAFETY testing process that the written exams be graded prior to advancement to the next level of testing. One approach is to conduct the written exam as part of the classroom portion of the curriculum or prior to the final two testing steps.