IDENTIFICATION OF COMPETENCIES

The first step in the design of the original curriculum was the identification of the core set of competencies that students should be expected to master in order to meet the goals of the program, especially the requirements of HOOA. In other words, what subject matter should be taught? A preliminary set of competencies was identified by the original design team using the mandated training requirements included in the HOOA and OSHA regulations, and from review of recent agricultural-related injury data. An external curriculum advisory team representing specialists in the fields of agricultural production, agricultural safety and health, youth development, agricultural engineering, agricultural education, farm labor, agricultural news media and computer-aided instruction, was assembled and asked to review and prioritize the preliminary set of competencies. (Many of those involved on the design team and the curriculum advisory team have been directly involved in one or both of the federally recognized tractor and machinery safety and/or certification training programs as a youth participant, parent, instructor, farm employer, or volunteer leader.) As a result of the review process, additional competencies considered essential for youth working in agriculture were identified. During the deliberations, the design team took into consideration the following factors:

- Existing federally mandated training requirements
- Recent agricultural-related injury data documenting the most frequent causes and types of fatal and severe injuries to youth working in agriculture
- Recent research on educational methodologies, youth development, age appropriate tasks, and safety education
- Future trends in agricultural production methods including new technology, sources of labor, and potential regulatory changes

A sample of high school agricultural educators and youth involved in agricultural work were asked to review the revised list of competencies and provide input. This group was asked to help prioritize the list and identify other desired competencies. The list was then reviewed by the external panel of experts. (See Acknowledgement Section for list of those involved.)

A set of approximately 170 cognitive and performance-based competencies were initially developed through this process. The design team concluded that by mastering this set of core competencies, youth would perform more safely and be less likely to be injured while performing work in agricultural production.

Those involved with the design team and curriculum advisory team also believed that the topics covered by the curriculum should not only meet the training requirements prescribed by the HOOA but exceed them. Since the HOOA regulations were introduced in 1968, there have been substantial changes in agricultural technology, work practices and their corresponding hazards. There have been, however, no significant changes to the law. For example, the HOOA regulations do not mention the use of skid steer loaders, common on many farms, or even grain bins. Therefore the GEARING UP FOR SAFETY curriculum intentionally included competencies that are not mentioned in or required by the current federal rules such as knowledge and skills required to safely operate ATV's, utility vehicles, and skid steer loaders. Some of the competencies were also directly related to recent data on agricultural-related injuries involving young workers, which were not available when the HOOA were originally implemented.

The original competencies were then categorized into 11 lessons of cognitive skills that addressed what a student should "know" in order to perform agricultural production work safely and one unit covering performance skills, (what a student should be able to "demonstrate") prior to employment.

During the revision process in 2018-2020, four new units were developed based upon an expanded set of competencies addressing skid steer loader safety, confined spaces in agriculture, grain storage and handling facilities and livestock safety. The 2020 version of the curriculum now addresses over 200 competencies or desired learning outcomes.