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# Developing a New Crops Competition Event for the 2014 SASES Annual Meeting

## Introduction:

Crops competitions are excellent ways to assess students' knowledge of agronomy. They are also great ways to compare students to their peers at other universities. Crops competitions started in the early twentieth century as crops judging contests. Visual judging of crops has fallen by the wayside, and competitions focusing on agronomic knowledge are now held. There are two main crops competitions held in the United States. The first is the Collegiate Crops Contest, which is affiliated with the American Society of Agronomy. The Collegiate Crops Contest consists of three parts: grain grading, seed analysis, and plant and seed identification. Every year the Collegiate Crops Contest is held over the period of a week in November. The contest starts with the American Royal event in Kansas City and finishes with the CME Group competition in Chicago. The other main crops contest held is the North American Colleges and Teachers of Agriculture (NACTA) Crops Contest. The NACTA Crops Contest consists of four parts: plant and seed identification, lab practical, agronomic math, and general agronomic exam. It is held each year in April and the location changes each year. This year is the inaugural year of a competitive crops competition which will be held at the International Annual Meeting of the American Society of Agronomy, Crop Science Society of America, and Soil Science Society of America in Long Beach, CA. Many very talented undergraduate agronomy students will be attending the ASA/CSSA/SSSA annual meeting and will have the chance to participate in the contest. The details of the inaugural Students of Agronomy, Soils, and Environmental Sciences (SASES) Crops Competition are outlined in this poster.

## Plant and Seed Identification



Plant and seed identification is one of the fundamental skills of agronomy. Since the beginning of agronomic education, students have been asked to identify plants and seeds of common crop, forage, and weeds species, and it is a necessary skill for all agronomists. Developing good plant and seed identification skills requires memorization and practice.

During the SASES Crops Competition, students will be asked to identify 25 samples. Each sample will be either a plant or seed, and plant samples are split into two categories: vegetative and reproductive.

The list of species is comprehensive and represents the diversity of crops, forages, and weeds of the United States.

## Lab Practical

The lab practical portion of the contest is comparable to activities that would be part of any introductory agronomy course. It covers a wide range of agronomic topics. Agronomists are by nature hands-on learners and enjoy the outdoors. Although we cannot conduct this portion of the contest outdoors, we have added some hands on components. The list of topics covered in this section are numerous, and include: interpreting seed tags or pesticide labels, identifying common fertilizers, recognizing herbicide injury symptoms, naming crop growth stages, identifying insect or disease pests, recognizing nutrient deficiencies, determining soil texture by feel and much more.



## Problem Solving



Problem solving is a skill that is used every day by practicing agronomists. It combines knowledge of many aspects of agronomy and uses that knowledge to solve problems, some of which can be complex. Students will be given a practical crop production scenario with information which they would typically collect in the field. They will use that information to propose a solution to the problems presented.

Two common features of this portion are equipment calibration and agronomic math. Scenarios may include problems related to fertilizer recommendations, variety selection, seeding practices, irrigation, yield estimation, and pesticide recommendations.

## Benefits:

1. By learning to apply basic plant and soil science principles and being able to identify the major crop, forage, and weed species of the US, students will be well-rounded in their knowledge of agronomy applicable to many different areas and regions.
2. By analyzing practical agronomic problems and developing solutions based on solid scientific principles, good logic, and accurate mathematical calculations, students will be better prepared for complex problem solving required in their careers.