

NORTH CENTRAL COLLEGIATE WEED SCIENCE CONTEST

2008 Rules and Regulations

(Revised and Approved, December 2007)

The purpose of the North Central Collegiate Weed Science Contest is to provide an educational experience from which students in North Central universities can broaden their applied skills in Weed Science. The contest provides an opportunity for Weed Science students to meet and talk with each other, be exposed to researchers from other universities and industry, and apply what they have learned using a contest to measure their capabilities. It is also hoped that the contest will increase the visibility of Weed Science and intensify the interest level of those participating in the discipline of Weed Science.

CONTEST RULES

A. Eligibility

Any undergraduate or graduate student currently enrolled and pursuing an A.S., B.Sc., M.Sc. or Ph.D. is eligible to participate. Eligibility includes A.S. students, including 2-year schools, who will compete as undergraduate individuals and teams. Each team will consist of four members. A team may be composed of: (a) graduates, (b) undergraduates, or (c) combination (graduates and undergraduates). A combination team must compete as a graduate team; however, the undergraduate students remain eligible for individual undergraduate awards. There is no restriction on the number of teams a college or university may enter in the contest. If a college or university does not have sufficient students for a team up to three students may enter as individuals.

All students graduating with an A.S. or B.Sc. degree six months before the contest (and not actively enrolled in a graduate program) will be able to participate as an undergraduate.

Undergraduate and graduate students may win the individual award once per degree (once as undergraduate, once as MS, and once as PhD student), but then they are no longer eligible to compete in that degree classification. Once an undergraduate student wins the individual award, they may no longer compete as an undergraduate student but could compete as a graduate student in the MS degree category. Once an undergraduate or an MS graduate student wins the individual award in the MS degree category, they will no longer be eligible to compete as a graduate student until actively enrolled in a PhD program.

B. Awards

Plaques will be awarded for the following categories for a total of 22 awards:

Team – The highest team score from all events (weed identification, written test and team sprayer calibration, unknown herbicides, and problem solving) will determine the overall contest

winner in both the graduate and undergraduate divisions. Second and third place teams will also be recognized (6 plaques). In addition, the graduate and undergraduate teams scoring highest in the team sprayer calibration event will also receive a plaque (2 plaques).

Individual – The highest three combined scores from all events (weed identification, written calibration test, unknown herbicides, and problem solving) will determine the overall top three graduate and top three undergraduate individual winners. Each will be recognized by a plaque (6 plaques). The highest individual scores by a graduate and an undergraduate student for each contest event: Weed Identification, Problem Solving, unknown herbicides, and written calibration test, will be recognized with a plaque (8 plaques).

C. Events

The contest will consist of four major events.

- 1) **Weed Identification** – Plants will be grown in either a field nursery or greenhouse pots and may be in any stage of growth or development, including seed samples. A complete list of potential species will be provided for each contestant prior to the contest. From this list a specified number of species will be utilized for the contest. Students will be responsible for the correct scientific and common name and spelling. A weed identification list will be sent to each participating university, and posted on the NCWSS website, with the correct spelling of each species. Students must be able to identify weed seed from the species on the list. Each contestant will identify 25 mature weeds, seed seedlings, or weed seeds for a total of 100 points. Each item is worth four points. Points are given as follows: two points for the common name and its correct spelling and two points for the scientific name and its correct spelling (including underlining scientific name). The maximum deduction is four points per sample. Five additional species will be identified to break any ties. Common names, scientific names, and spellings must conform to the most current “A composite list of Weeds”, published by Weed Science, revised 1989, unless specific exceptions are announced prior to the contest.
- 2) **Calibration** – This event consists of two sections: a written test and a team sprayer calibration event. The written test will cover problems and factual information about sprayer calibration; the written portion is scored as an individual event worth 50 points per person and a total of 200 points for the team. The team portion will not be used to calculate individual scores, but will be used to calculate team scores. Each team will be given a set of conditions upon which a CO₂ backpack sprayer is to be calibrated based upon the application of a herbicide mixture. This event is worth 200 points. All sprayer components, calculators, and stopwatches will be provided. Use of personal calculators will not be permitted.

Each team will be expected to choose the appropriate nozzle tips, speed, pressure, and amount of herbicide for accurate calibration and application. Each team will be asked to deliver a designated number of gallons / acre or liters / hectare over a given length or area. Scoring will be based on accuracy of elapsed time, application, and calibration. Time will start when the team approaches the spray table. For every 12 seconds over the 10-minute allotment, one point will be deducted from a possible 50 points. The correct amount of

herbicide/gallon or liter of spray solution must be given to the judge before the calibration run (25 points). When a team is ready to make the calibration run, advise the judge and time will be stopped.

Points for correct nozzle selection will be as follows: 5 points/nozzle plus 20 additional points awarded if all four nozzles are correct; no additional points awarded if any of the four nozzles are incorrect. Similarly, points for correct screen/check valve selection will be as follows: 5 points/screen plus 10 additional points awarded if all four screens are correct; no additional points if any of the four screens are incorrect. The judge will then check each nozzle for output in milliliters per minute. A $\pm 3\%$ variation per nozzle will be allowed. Each 0.5% under or over the 3% will result in loss of 0.5 points. For example, if a nozzle is producing 8% less than the calculated (correct) output, 5 points will be deducted. The sprayer output will count for 24 points.

Calibration Run:

25 points = correct sprayer output given to judge

15 points = boom height

40 points = nozzle selection (5 pt/nozzle + 20 pt for all same nozzle)

30 points = screen/check valve selection (5 pt/screen + 10 pt for all same screen)

16 points = uniform spray pattern

24 points = sprayer output (-0.5 pt / each 0.5% beyond $\pm 3\%$)

50 points = Time

Total = 200 points

- 3) **Identification of unknown herbicides** – Crop and weed species will be planted and treated with herbicides. A list of crops, weeds, and herbicides will be provided prior to the contest. From this list, selections will be made. Students will be required to identify by visual symptoms on crops and weeds the herbicide previously applied. Approved common names for herbicides will be utilized. This even is worth 100 points. There will be ten plots and each plot will be worth 10 points. Five additional plots will be identified to break any ties. There will also be a control plot, which must be identified as a control. Herbicide plots may be duplicated.
- 4) **Problem solving and recommendation** – Students will be required to evaluate a crop production problem in a field situation and recommend an effective solution to that problem. Recommendations must comply with accepted agricultural practices. Students should consider all factors which influence crop growth and development. Although several possible answers may be correct, the best answer considering all alternative will be determined by a designated advisory panel. This even is to be presented and handled in a “role-playing” situation. The student will be asked to assume the role of an extension, sales, or research person when dealing with the farmer.

- 25 points – How the student approached the farmer.
- 45 points – Assessment of situation; determine the problem.
- 15 points – Recommendation – now
- 15 points – Recommendation – next year

Each student will handle only one situation, for a total possible score of 100 points. This will allow for a possible team score of 400 points. Students will be selected by chance for each possible situation. Each team member will evaluate a different situation. Winners of each situation may be required to participate in a common but different field situation to determine the overall winner.