Horticulture Science B/C

1. <u>DESCRIPTION</u>: Participants will be assessed on their knowledge of horticulture. Teams may also grow from seed tomato plant and test multiple variables to achieve a maximum score. Each team must grow their own plants.

   <u>A TEAM OF UP TO</u>: 2   <u>IMPOUND</u>: Yes   <u>APPROXIMATE TIME</u>: 50 minutes

2. <u>EVENT PARAMETERS</u>: Each team may bring one three-ring binder of any size containing information in any form and from any source attached using the available rings. Sheet protectors, lamination, tabs and labels are permitted. Participants may remove information or pages for their use during any part of the event. Teams may also bring two stand-alone non-programmable, non-graphing calculators.

3. <u>GROWING THE PLANT</u>:

   a. Teams will attempt at least 3 different growing variables with a goal to grow the tallest plant that produces the most fruits for the tomato 'Veranda Red Hybrid' cultivar. Example conditions include, but are not limited to: varying the type of soil or growing media, fertilizer type/brands, frequency/amount of watering, pinching the plant, duration of light exposure, quality of light. Teams may need to make multiple plantings throughout the year.

   b. Log books should be used to document the progress of each type of growing variable. Information recorded must include: the growing variable, number of fruits produced on a plant, plant height, planting date, date of first flower opening. Dates and times must be included for variables such as amount/frequency of watering, fertilization utilization, and pinch date of the plant. A graphical track (plant height over time) can be created for each growing variable. Up to three plants per growing variable can be included. If multiple plants per variable are grown, they can be combined onto one graphical track for each variable.

   c. Teams without a log book and/or plant will result in a penalty (see scoring below).

4. <u>IMPOUND</u>:

   a. Teams may impound a live unmodified, naturally growing tomato plant and a Log Book. The Log Book and plant must be clearly labeled with the team # and participant names.

   b. Participants must be able to answer questions from the Event Supervisor, either during impound or during the written exam period, related to the growing of their tomato plant.

5. <u>THE COMPETITION</u>:

   a. Teams will be given 50 minutes to complete the written exam consisting of multiple choice, matching, T/F, essay and/or short answer.

   b. Exam content will include aspects of horticulture including the three subset areas: pomology, olericulture, and ornamental horticulture. Topics will include the importance/advantage of horticulture techniques, equipment and career opportunities. Participants should also know which garden plants grow best in certain climates zones, which grow well together and which compete and should be avoided. Specialized techniques for growing fruits and vegetables, grafting, propagation and micropropagation along with genetic engineering will only be covered at the Division C level.

      i. A minimum of 20% of exam questions will come from the three main subject areas.

   c. During the written exam, at least one team member will bring their tomato plant to the Event Supervisor to measure the plant height and count the number of tomato fruits. Measurements from the soil/growing media line to the tallest part of the plant are recorded to the nearest mm for plant height.

6. <u>SCORING</u>:

   a. Highest Final Score wins.

   b. Final score = Exam percentage/2 (max 50 points) + Fruit Number per Plant/2 Score + Plant Height (cm) + Log Book Score.
   c. Log Book Score (max 12 points):

   - 1 point per growth variable tested - max 3 points
   - 1 point for each graphical track – max 3 points
   - 1 point for each replanting (from seed) attempt – max 3 points
   - 1 point for documenting days to first flower – max of 3 points

7. Scoring example: Exam Score was 80%, Total Fruit Number on a Plant Score was 30, Plant Height was 15 cm, Log Book Score was 10 Final score = 80/2 + 30/2 + 15 + 10 = 80
   a. Penalty: Teams that do not impound a log book and/or plant or are unable to answer questions about their growing experiments from the Event Supervisor will not receive a Length, Distribution, and Log Book Score.

   b. Ties are broken by pre-selected exam questions chosen by the Event Supervisor.