



Willie and the Salad Bonanza Contest

Willie and the Salad Bonanza is a contest open to elementary, middle and high school teams, along with other K-12 community organizations, such as 4-H, scouts, FFA or other teams, interested in the scientific principles surrounding plant growth. The challenge is to grow the largest amount of Space Hybrid spinach, Dwarf Blue kale and Black-Seeded Simpson lettuce in a communal container using no more than 18.927.1 liters (approx. 5 gallon bucket) growing medium over a 47-day time span, and document this effort. Seeds can be mailed to sponsors, **or** sponsors (or designee) can arrange for pick-up of seeds and free compost from the K-State Olathe loading dock on Saturday, Sept. 18, from 10 a.m. to noon.

Beginning on Sept. 22, contestants will cultivate the three different types of salad greens within the same container for 47 days, documenting all activities. The number of seeds planted of each type (at least one of each type) will be up to each team to decide. The volume of the container cannot exceed 1155 cubic inches, or 18.9271 liters. Plants may be grown hydroponically, using no more than 18.9271 liters of liquid solution. The Cultural Practices Document, which is required for the entry's consideration, is due with the entry on Nov. 6. Assessment of this document can determine the winner in the case of a tie.

Once judging is complete on Nov. 6, a plaque for the school or organization with all team member names (limit of four) awarded for the top entries in each of the three levels: Grade K-5, 6-8 and 9-12. All team members who complete the competition by attending the judging event will receive a certificate of participation, compiled from the Cultural Practices Documentation Form turned in with their entry.

Note the **NGSS standards** inherently supported by this contest:

K-ESS3-1, K-ESS3-3, 2-LS2-1, 3-LS3-2, 3-LS4-3, 3-5-ETS1-3,
5-LS1-1, MS-LS2-1, MS-LS2-3, HS-LS2-1, HS-ESS3-3, HS-ESS3-4, HS-ETS1-3

Contest Rules

I. Complete Registration and waiver online at: olathe.k-state.edu/saladcontest

The contest is open to 4-person teams of K-12 students living in Kansas. **The contest will have three divisions, K-5, 6-8 and 9-12 grades.** Each team should select a name for their group of no more than four members, and prominently display that name and hometown on their entry. Students may only participate on one team. Sponsors will receive free seeds by mail sometime between Sept. 15 and Sept. 21, after completed registration. They may instead choose to pick up seeds from K-State Olathe Saturday, Sept. 18, 10 a.m. to noon at the same time they pick up free compost. It will be up to the teams to decide which potting medium and other growing conditions to employ.

II. Growing Period

1. Planting Date: Seeds planted no sooner than Sept. 22, 2021 (i.e., 47 days preceding the judging date of Nov. 6). Contestants and a team sponsor must attest to planting date on the entry form. Note: Transplantation of seeds allowed after germination to the rooting medium, but the **germination/soaking process cannot start prior to Sept. 22, 2021.**
2. Seeds: Provided free to first 30 sponsors who register, when online registration form is completed. Each team decides how many of the seeds to plant, but the container must include at least one surviving plant of the three kinds of plants/seeds on day of judging.
3. Pots used for growing plants have a maximum volume of 18.927.1 liters. Pots can be of any material. If teachers deciding to grow their entry hydroponically, they must agree that the recycled solution volume may be re-supplied as needed, never exceeding the 18.927.1 liter maximum. A ratio for each entry is determined by dividing the total

biomass above ground by the volume of the growing medium. The highest resulting density is the winner in each division.

4. Select your soil/rooting medium/liquid solution (if hydroponically grown) carefully as the root environment has a large impact on plant growth. The physical and chemical composition description of the media is required in the Cultural Practices Documentation Form.
5. Select amendments to the soil/rooting medium (fertilizers, etc.) that will optimize plant growth. Note: Materials classed as growth hormones disqualify the entry this competition. Types, amounts and dates of amendment description required in the Cultural Practices Documentation Form.
6. Select a lighting and temperature environment to maximize growth. Do not underestimate the effects of lighting and temperature. Lighting and temperature conditions description is required in the Cultural Practices Documentation Form.
7. Maintain a watering regime designed for maximum growth. Describe this regime in the Cultural Practices Documentation Form.
8. Please feel free to use the resources page on the contest page website.

III. Cultural Practices Documentation Form

1. Keep a record of all cultural practices used in the contest. Records should be **very** detailed.
2. A copy of your [Cultural Practices Documentation Form](#) must accompany your entry on Nov. 6, 2021, or will result in disqualification from the contest.

IV. Contest Judging–Nov. 6, 2021

Students and their entries must arrive at the Loading Dock (rear entrance to K-State Olathe, 22201 W. Innovation Drive, Olathe, KS 66061, on Saturday, Nov. 6 between 9 and 11:30 AM for biomass and volume judging. All entries, still in original growing container, judged upon receipt must contain at least one surviving plant of each of the three required types of plants (Melody spinach, Dwarf Blue kale and Black-Seeded Simpson lettuce). Students are required to be present for judging, be available for questions, will observe the methods used, and are encouraged to assist with the plant evaluations. During the judging process, a food-related career expo will be available for sponsors, students, and their families.

1. Entries will be judged based on:
 - A. Plant biomass (total weight of plants in grams cut off at the soil line on Nov. 6 by K-State staff), divided by volume (in cm^3) of growth medium used. Liquid growth medium will be measured using graduated cylinders, and recorded in ml, converted to cm^3 . (1 ml = 1 cm^3) Entry with the highest number wins [Ex: $380 \text{ grams}/16020 \text{ cm}^3 = .0237 \text{ g/cm}^3$ Any ties will be decided by assessment of the Cultural Practices Document.
2. After determining biomass, participants are encouraged to take their containers/harvested salad material home for reuse/ personal consumption.
3. Judging of plants and written material accomplished by K-State Olathe, Compass Minerals, and Extension staff

Results determined in three divisions (K-5, 6-8 and 9-12). Entries within each division ranked based on the above criteria. The top-ranked salad biomass per volume (of the container) in each division receive a plaque with team members' names listed that can be displayed in the winning school or organization's office area (time must be allowed for engraving after results are final). All team members listed on the registration form, who complete the contest, and verified by sponsor at judging will receive a certificate of participation.

Sponsored by: Kansas State University Olathe, K-State Olathe Horticulture Research and Extension Center, Compass Minerals Plant Nutrition, Missouri Organic Recycling



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