

Food Science and Technology

Contest Description and Rules:

Please direct questions to:
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We will only be able to accommodate the first 18 teams to register for the WI FFA State CDE.

Team Product Development Project

Each team will be provided with a list of potential ingredients in order to develop, label and package a product. You will be developing a gluten-free breakfast bowl that must contain eggs, pork, no bacon, and a fruit or vegetable and to be marketed in the frozen section of retail stores. Please see section 2 below for an overview.

For the WI FFA State CDE, a team will consist of 4 individuals. Prior to the contest, the team must prepare materials and a presentation for the Team Product Development Project. The team score will be determined by adding the points from the product development project and the team food safety/sanitation activity to the 4 individuals' scores in the individual activities.

Teams can compete in this event for Ag Technology awards without participating in the 2 team activities. The top two individual scores on the individual activities will be used as the team score for Ag Technology Contest purposes.

Allergy Information: Food products used in this event may contain or come in contact with potential allergens. Advisors must submit a special needs request at least two weeks prior to the event for participants with any allergies with certification. The event committee will make all reasonable efforts to accommodate students with food allergies.

1) OBJECTIVES

- To encourage FFA members to gain an awareness of career and professional opportunities in the field of food science and technology.
- To provide FFA members with the opportunity to experience group participation and leadership responsibilities in a competitive food science and technology program.
- To help FFA members develop technical competence and personal initiative in a food science and technology occupation.

2) EVENT FORMAT

The food science and technology career development event will consist of four activities:

- team product development project (400 points)
- food safety/sanitation team activity (80 points)
- an individual objective test (150 points)
- an individual problem solving/math practicum (25 points)
- an individual customer inquiry practicum (25 points)
- an individual product specification compliance practicum (25 points)
- a practicum in sensory evaluation (40 points)

All team members will participate in **all** of the individual activities.

1) Equipment: Materials student must provide-Each participant must have a clean, free of notes clipboard, two sharpened No. 2 pencils, and an electronic calculator. Calculators used in this event should be battery operated, non-programmable, and silent with large keys and large displays. Calculators should have only these functions: addition, subtraction, multiplication, division, equals, percent, square root, +/- key, and one memory register. No other calculators will be allowed during the event.

2) Team Activities

***2025 Team Product Development Project Category – Condiment for Chicken Nuggets that can be purchased in the regular aisle of retail stores. Will most likely be refrigerated upon opening.**

Each team will receive a marketing scenario describing a need for a new or redesigned product that would appeal to a potential market segment. This scenario will contain a description of the existing marketing situation, competition and potential target market segment to be served by the new product. It is the task of the team to design a plan for a new food product or reformulate an existing product.

(1) The team will be responsible for understanding and using the following concepts:

- Cost of goods sold
- Nutrition
- Target audience
- Quality control
- Marketing and sales
- Product
- Processing
- Packaging
- Food Safety
- Formulation concepts
- Quality of presentation

(2) Each team will create a package for the product based on the list of acceptable ingredients and marketing scenario. **The team will be able to access this information beginning March 17, 2025.** With this information, the team will use the marketing

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scenario to develop an ingredient list for a reformulated or new product, calculate a nutritional label, develop the ingredient statement and educational panel, and develop the front or principal display panel to reflect the new product and its market.

- (3) At the contest, each team member will contribute in a ten (10) minute oral product development proposal. Teams must use the package as part of the presentation. **Teams do not need to bring the actual product.** No electronic media will be used in the presentation. Following the presentation there will be a ten (10) minute question period from the judges in which each team member will be expected to answer questions about the development of their particular product. Total time involved for each team will be 20 minutes. Total number of points possible for this activity will be 400 points.
- (4) Evaluation Criteria for Product Development Presentation – 400 points

Component	Points
Package Design	100
Oral Presentation	250
Response to judge's questions	50
Total Points – Team Product Development Component	400

Each component will be evaluated using the criteria listed in the National FFA CDE Handbook

- **Food Safety/Sanitation Team Activity**

Each team will be given a situation (e.g. photos, videos, or written scenarios). The team will work together to evaluate the situation and complete a safety/sanitation report evaluation which will include observations, degree of concern, recommendations/corrective actions.

3) Individual Activities

- **Test** - The objective questions administered during the Food Science and Technology examination will be designed to determine each team member's understanding of the basic principles of food science and technology. Team members will work individually to answer each of the 50 questions. Each person will have fifty minutes to complete the examination. Each question will be worth 1 point for a correct answer. The test will be based on the list of references.
- **Practicums** - Each team member will compete in both practicums. The practicums will each be worth 25 points.
 - I. Problem Solving/Math Practicum**

Participants will answer a series of 5 mathematical calculations based on common food science themes. Questions may include nutritional calculations, ingredient quantity, cost benefit analysis, estimation of cost/margin of goods sold, conversions, processing conditions, etc.
 - II. Food Safety and Quality Practicum**
 - (a) Customer Inquiry Letter** - Each participant will be given five scenarios representing

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general consumer inquiries. Participants must determine if the consumer inquiry reflects a quality or safety issue and determine if it is a biological, chemical or physical concern or hazard. (25 points)

- (b) **Product Specification Compliance** – Students will be given sample sets (actual products/and or data sets) and will be responsible for determining compliance with the provided specification requirements. This may include, but is not limited to, determining if the product(s) is within the net weight standards, product sizing requirements, pH, color analysis, viscosity measurement, fill level tolerances, packaging specification compliance, etc. Participants will be asked five questions regarding potential compliance violations presented within the sample set.

III. Sensory Evaluation Practicum

- (a) **Triangle Tests** - Four different triangle tests will be conducted. Participants are expected to identify the different samples through flavor, aroma, visual cues and/or textural differences. Answers will be given on the sheet provided. No list will be provided for this segment of the practicum. Each test is worth 5 points. (20 points)
- (b) **Aromas**- Each participant will be asked to identify four different aromas from vials provided at each station and record the answer on the sheet provided. A list of potential aromas will be provided to each person. Each sample is worth 5 points. (20 points)
The Aroma list from the National FFA CDE Handbook will be used.

4) TIE BREAKERS

WI FFA CDE - Should a tie occur in the overall team placing, the tie will be broken by the highest team product development project score. If this score does not break the tie, then the highest number of total points earned from the objective test (adding the individual scores from 4 team members) will break the tie. If a third tiebreaker is needed the judges response to the Team Question period from the Team Product Development project will be used. To identify the high individual for this event in case of a tie, the highest examination score will be used as the first tiebreaker, followed by the highest Food Safety and Quality practicum score, as the second tiebreaker.

Ag Technology Contest – Team ties will be broken in the following order: highest total points on the objective test (total of the two individual scores), highest total points on the consumer letter, highest total points on the Food Safety and Quality practicum. Individual ties will be broken using the same contest components as team ties.

5) REFERENCES

Please see the National FFA CDE Handbook for contest references.