



## Colorado Science and Engineering Fair

## 2025 Individual Project Abstract Form

**Please print 2 copies of the completed form. Sign both copies, keep 1 for your notebook and submit 1 copy to your Regional Fair Director with your other paperwork.**

Title of Project: Modified Atmosphere Packaging Strategies for Prolonged Organic Strawberry Health

Finalist's Name: Julia Muro

School and City: North Middle School, Colorado Springs

Sponsor's Name: Sarah Muro

Category: Micro & Molecular Biology

Division: Junior (grades 6 - 8)

Abstract (250 words or less):

The purpose of this project was to determine which gases would prolong strawberry health in shipping. While most produce is stored in controlled atmosphere facilities before it is shipped to the consumer, most fruit does not have modified air in its packaging. I hypothesized that the most effective gas would be argon and the least effective gas would be oxygen.

This experiment involved 20 sealed plastic jars that each contained six strawberries. The twenty plastic jars were broken into five groups. The groups were ambient air, oxygen, nitrogen, carbon dioxide, and argon. The health of the strawberries was recorded every three days for 15 days. After every health check, gas was reinserted into the containers, and the lids were resealed.

The data collected supported the hypothesis that added oxygen would result in the worst strawberry health. However, argon did not support strawberry health the best; carbon dioxide did. Organic strawberry producers should package their strawberries in airtight containers with carbon dioxide added.

*I hereby certify that the above statements are correct and the information provided in the Abstract is the result of one year's research. I also attest that the above properly reflects my own work.*

Finalist's Signature:

Date:

In addition, all students must complete the ISEF Student Checklist (1A), Research Plan, Approval Form (1B), and Checklist for Adult Sponsor (1), and any other ISEF forms required for this type of project. See the International Rules and Guidelines for form requirements. Return COPIES of all of these forms to your Regional Fair Director with you Finalist Verification/Permission Form. **A signed copy of this form must be included in your notebook.**