| Budget Summary | | | | | |
|-----------------------|--|--|--|--|--|
| Expense Category | Funds Requested | | | | |
| Personnel | \$32,982.00 | | | | |
| Fringe Benefits | \$9,742.31 | | | | |
| Travel | \$3,597.08 | | | | |
| Equipment | \$0.00 | | | | |
| Supplies | \$8,110.00 | | | | |
| Contractual | \$20,200.00 | | | | |
| Other | \$1,000.00 | | | | |
| Direct Costs Subtotal | \$75,631.39 | | | | |
| Direct Costs Subtotal | * Note that the maximum grant request is \$75,000. | | | | |

PERSONNEL

| # | Name/Title | Level of Effort (# of hours OR % FTE) | Funds Requested |
|---|--|---------------------------------------|--------------------|
| 1 | Graduate research student (GRS, step 11) | 15% | \$8,635.00 |
| 2 | Research Associate | 21% | \$24,347.00 |

Personnel Subtotal: \$32,982.00

PERSONNEL JUSTIFICATION

Personnel 1: Graduate Research Assistant (M.S. student) will conduct both field and laboratory work for the field experiments; labelling trees and cankers, in the orchard trials. GRS will collect and analyze canker length/width data, collect cankers, store them, harvest and process cankers, extract DNA, presenting research results in professional meetings, draft research journal articles and extension publications. 12 months of funding are requested to conduct these activities over a two-year period (15% FTE).

Personnel 2: Research Associate, will conduct optimizing the DNA extraction, canker maceration, and ddPCR including testing the dynamic range, limit of detection (sensitivity) and v-ddCPR validation using natural samples. Once complete, he will train the GRS and assist in guiding the GFS while canker processing from project experiments. 21% of an FTE over two years is requested.

FRINGE BENEFITS

| # | Name/Title | Fringe Benefit Rate | Funds Requested |
|---|---------------------------------|---------------------|------------------------|
| 1 | Graduate research student (GRS) | 9.74% | \$841.05 |
| 2 | Research Associate | 36.56% | \$8,901.26 |

Fringe Subtotal: \$9,742.31

TRAVEL

| # | Trip Destination | Type of Expense (airfare, car rental, hotel, meals, mileage, etc.) | Unit of Measure (days, nights, miles) | # of Units | Cost per Unit | # of Travelers Claiming the Expense | Funds Requested |
|---|------------------|--|---|---------------|---------------------|---|--------------------|
| 1 | VT Blacksburg | mileage | miles | | | | |
| | Campus (from | | | 260 | 0.585 | 1 | \$152.10 |
| | Danville, VA) | | | | | | |

| # | Trip Destination | Type of Expense (airfare, car rental, hotel, meals, mileage, etc.) | Unit of Measure (days, nights, miles) | # of Units | Cost per Unit | # of Travelers Claiming the Expense | Funds Requested |
|----|---|--|---|---------------|---------------------|---|--------------------|
| 2 | VT Blacksburg Campus (from Petersburg, VA) | mileage | miles | 398 | 0.585 | 1 | \$232.83 |
| 3 | VT-IALR, Danville, VA | mileage | miles | 260 | 0.585 | 1 | \$152.10 |
| 4 | Virginia State University (Petersburg, VA) | mileage | miles | 398 | 0.585 | 1 | \$232.83 |
| 5 | VT-IALR, Danville, VA | mileage | miles | 260 | 0.585 | 1 | \$152.10 |
| 6 | Virginia State University (Petersburg, VA) | mileage | miles | 398 | 0.585 | 1 | \$232.83 |
| 7 | VT-IALR, Danville, VA | mileage | miles | 260 | 0.585 | 1 | \$152.10 |
| 8 | Virginia State University (Petersburg, VA) | mileage | miles | 398 | 0.585 | 1 | \$232.83 |
| 9 | VT-IALR, Danville, VA | mileage | miles | 260 | 0.585 | 1 | \$152.10 |
| 10 | Virginia State University (Petersburg, VA) | mileage | miles | 398 | 0.585 | 1 | \$232.83 |
| 11 | VT Blacksburg Campus (from Danville, VA) | mileage | miles | 260 | 0.585 | 1 | \$152.10 |
| 12 | VT Blacksburg Campus (from Petersburg, VA) | mileage | miles | 398 | 0.585 | 1 | \$232.83 |
| 13 | 2023 Institute of Food Technologists Annual Meeting (Chicago, IL, July 2023) | airfare | Round trip | 1 | \$450 | 1 | \$450.00 |
| 13 | 2023 Institute of Food Technologists Annual Meeting (Chicago, IL, July 2023) | hotel | night | 3 | \$187 | 1 | \$561.00 |
| 13 | 2023 Institute of Food Technologists Annual Meeting (Chicago, IL, July 2023) | Meal and incidental | Full day | 3.5 | \$79 | 1 | \$276.50 |

Travel Subtotal: \$3,597.08

TRAVEL JUSTIFICATION

For each trip listed in the above table describe the purpose of this trip and how it will achieve the objectives and outcomes of the project. Be sure to include approximately when the trip will occur. Add more trips by copying and pasting the existing listing or delete trips that aren't necessary.

Trip 1 (Approximate Date of Travel 10/2022): This trip is for VT-IALR Co-PIs to travel to Virginia Tech Blacksburg campus for first project meeting and discussion of varieties and growing system.

Trip 2(Approximate Date of Travel 10/2022): This trip is for VSU Co-PIs to travel to Virginia Tech Blacksburg campus for first project meeting and discussion of varieties and growing system.

Trip 3(Approximate Date of Travel 12/2022): This trip is for VT PI and graduate student travel to VT-IALR Controlled Environment Agriculture Innovation Center in Danville, VA to observe the indoor growing facility and discuss on the system setup.

Trip 4(Approximate Date of Travel 12/2022): This trip is for VT PI and graduate student travel to VSU in Petersburg, VA to observe the conventional field used for cherry tomato cultivation and discuss on the field experimental design.

Trip 5(Approximate Date of Travel 03/2023): This trip is for VT graduate student travel to VT- IALR Controlled Environment Agriculture Innovation Center in Danville, VA to initiate the planting activities under the guidance of the center experts.

Trip 6(Approximate Date of Travel 03/2023): This trip is for VT graduate student travel to VSU in Petersburg, VA to participate in the cherry tomato planting activities.

Trip 7(Approximate Date of Travel 06/2023): This trip is for VT graduate student travel to VT-IALR Controlled Environment Agriculture Innovation Center in Danville, VA to harvest the cherry tomatoes and transport to Blacksburg labs for analyses.

Trip 8(Approximate Date of Travel 06/2023): This trip is for VT graduate student travel to VSU in Petersburg, VA to harvest the cherry tomatoes and transport to Blacksburg labs for analyses.

Trip 9(Approximate Date of Travel 08/2023): This trip is for VT graduate student travel to VT-IALR Controlled Environment Agriculture Innovation Center in Danville, VA to harvest cherry tomatoes, apply agronomic treatments and transport to Blacksburg labs for analyses.

Trip 10(Approximate Date of Travel 08/2023): This trip is for VT graduate student travel to VSU in Petersburg, VA to harvest the cherry tomatoes, apply agronomic treatments and transport to Blacksburg labs for analyses.

Trip 11 (Approximate Date of Travel 11/2023): This trip is for VT-IALR Co-PIs to travel to Virginia Tech Blacksburg campus for team meeting and plan for next year's activities.

Trip 12(Approximate Date of Travel 11/2023): This trip is for VSU Co-PIs to travel to Virginia Tech Blacksburg campus for team meeting and plan for next year's activities.

Trip 13(Approximate Date of Travel 07/16/2023-07/19/2023): This trip is for graduate student to travel to 2023 Institute of Food Technologists Annual Meeting (Chicago, IL) to present our research project and findings.

CONFORMING WITH YOUR TRAVEL POLICY

By checking the box to the right, I confirm that VDACS's established travel policies will be adhered to when completing the above-mentioned trips in accordance with $\underline{2}$ CFR 200.474 or 48 CFR subpart 31.2 as applicable.

 \checkmark

EQUIPMENT

None

SUPPLIES

| Item Description | Per-Unit Cost | # of Units/Pieces Purchased | Acquire When? | Funds Requested |
|--------------------------------------|------------------|-----------------------------------|------------------|-----------------|
| Petri Plates | \$100/case | 20 | 1/23&1/24 | \$2,000.00 |
| Potato Dextrose Agar | \$198.98 | 5 | 1/23&1/24 | \$994.90 |
| Nitrile Gloves (lab/field) | \$131/case | 2 | 1/23&1/24 | \$262.00 |
| Flags for field trials/sampling | \$7.99/bundle | 10 | 10/22&10/23 | \$79.90 |
| Wooden Stakes for field | \$40.30/box | 4 | 10/22&10/23 | \$161.20 |
| Professional Measuring Tapes | \$100.95 | 2 | 10/22&10/23 | \$201.90 |
| Disposable Tyvek Suits | \$40.55/case | 10 | 1/23&1/24 | \$405.50 |
| Seed (Average price of seed | \$73.80/M | 50 | 1/23&1/24 | \$3,690.00 |
| based on crops planned) | seed | | | |
| Sharpie Markers | \$16.15/dozen | 4 | 4/23&4/24 | \$64.60 |
| Galvanized Field Plot Sign Holder | \$5.00 | 50 | 7/23&7/24 | \$250.00 |

Supplies Subtotal: \$8,110.00

SUPPLIES JUSTIFICATION

Petri Plates, Potato Dextrose Agar, and Gloves will be used in the laboratory portion of this proposed research project, specifically disease diagnoses and culturing of organisms collected from fields and postharvest pumpkin trials. Gloves will also be used for field work with seeds, planting in the field, harvesting, and pesticide maintenance and treatment applications.

Flags, wooden stakes, and measuring tapes are all needed to conduct field studies and for sampling isolates from fields.

Disposable Tyvek suits are needed for protection when working with pesticides, both in the field and in the laboratory with postharvest trials.

Seeds are needed annually for field trials with the exact cultivars to be determined at a later date.

Sharpie Markers are needed for marking field stakes, pumpkins for postharvest trials, and petri dishes.

Galvanized Field Plot Sign Holders will be used by at field days where plots can be label so growers/stakeholders can compare cultivars/treatments.

CONTRACTUAL/CONSULTANT

ITEMIZED CONTRACTOR(S)/CONSULTANT(S)

Provide a list of contractors/consultants, detailing out the name, hourly/flat rate, and overall cost of the services performed. Please note that any statutory limitations on indirect costs also apply to contractors and consultants.

Note that if you plan to contract with another organization to implement your project (for example, a joint project between VSU and VT), the contractual section will need to be completed thusly:

| # | Name/Organization | Hourly Rate/Flat Rate | Funds Requested |
|---|---------------------------------------|--------------------------|-----------------|
| 1 | Video Editor (TBD) | \$5000.00 Flat Rate | \$5,000.00 |
| 2 | Virginia State University, College of | See Breakdown | \$15,200.00 |
| | Agriculture | Below | |

Contractual/Consultant Subtotal: \$20,200.00

CONTRACTUAL JUSTIFICATION

Contractor/Consultant 1

Video Editor: The video editor will develop approximately 25 short farm profile videos for the Directory. Price is based on historical pricing for video editing.

Contractor/Consultant 2:

This grant is a joint effort between Virginia Tech and Virginia State University. Our Co- will be actively involved in all stages of the study including upfront variety selection, experimental design, plant and harvest field-grown cherry tomatoes, perform postharvest and shelf-life studies, data processing and result dissemination. The funding requested here will be used to perform abovementioned research activities at Virginia State University.

CONTRACTUAL BUDGET SUMMARY

| Expense Category | Funds Requested |
|-------------------------|-----------------|
| Personnel | \$11,936.40 |
| Fringe Benefits | \$913.14 |
| Travel | \$900.46 |
| Equipment | \$0 |
| Supplies | \$450.00 |
| Contractual | \$1000.00 |
| Other | \$0 |
| Total Budget | \$15,200.00 |

CONTRACTUAL PERSONNEL

| # | Name/Title | Level of Effort (# of hours OR % FTE) | Funds Requested |
|---|--|---------------------------------------|--------------------|
| 1 | Co-PI VSU | 1%, two years | \$2,030.00 |
| 2 | Hourly technician (Virginia State University, College of Agriculture) | 8%, two years | \$4,060.00 |
| 3 | Undergraduate student wage (Virginia State University, College of Agriculture) | 46%, two years | \$5,846.40 |

Personnel Subtotal: \$11,936.40

CONTRACTUAL FRINGE BENEFITS

| # | Name/Title | Fringe Benefit Rate | Funds Requested |
|---|---|---------------------|-----------------|
| 1 | Co-PI VSU | 7.65% | \$155.30 |
| 2 | Hourly technician (Virginia State University, | 7.65% | \$310.59 |
| | College of Agriculture) | | |
| 3 | Undergraduate student wage (Virginia State | 7.65% | \$447.25 |
| | University, College of Agriculture) | | |

Fringe Subtotal: \$913.14

CONTRACTUAL TRAVEL

| # | Trip Destination | Type of Expense (airfare, car rental, hotel, meals, mileage, etc.) | Unit of Measure (days, nights, miles) | # of Units | Cost per Unit | # of Travelers Claiming the Expense | Funds Requested |
|---|--|--|---|---------------|---------------------|---|--------------------|
| 1 | VT Blacksburg Campus (from | mileage | miles | 400 | 0.585 | 1 | \$234.00 |
| | Petersburg, VA) | | | | | | |
| 2 | Virginia State University (from | mileage | miles | 400 | 0.585 | 1 | \$234.00 |
| | Blacksburg, VA) | | | | | | |
| 3 | VT-IALR, Danville, VA (from Petersburg, VA) | mileage | miles | 375 | 0.585 | 1 | \$219.38 |
| 4 | Virginia State University (from Danville, VA) | mileage | miles | 375 | 0.585 | 1 | \$219.38 |

Travel Subtotal: \$900.46 requested out of \$906.76.

CONTRACTUAL SUPPLIES

| Item Description | Per-Unit Cost | # of Units/Pieces Purchased | Acquire When? | Funds Requested |
|---------------------------------------|------------------|--------------------------------|------------------|------------------------|
| Sampling bags and associated supplies | \$9.00 | 25 | 10/2022 | \$225.00 |
| Sampling bags and associated supplies | \$9.00 | 25 | 10/2023 | \$225.00 |

Supplies Subtotal: \$450.00.

CONTRACTUAL CONTRACTUAL/CONSULTANT

ITEMIZED CONTRACTOR(S)/CONSULTANT(S)

| # | Name/Organization | Hourly Rate/Flat Rate | Funds Requested |
|---|---------------------|--------------------------|-----------------|
| 1 | Soil and tissue lab | 40 samples @ \$25.00 ea. | \$1,000.00 |

Contractual/Consultant Subtotal: \$1,000.00

CONTRACTUAL / OTHER

N/A

| OTHER | | | | |
|-----------------------------|------------------|-----------------|--------------------------|--------------------|
| Item Description | Per-Unit Cost | Number of Units | Acquire When? | Funds Requested |
| Journal article publication | \$1,000.00 | 1 | Mar 2023 to Sept 2024 | \$1,000.00 |

Other Subtotal: \$1,000.00

OTHER JUSTIFICATION

Funds are requested to publish the results in *Plant Disease*, or another similar peer-reviewed journal.