Virginia Wine Board
Grant Report Template

1.0 INSTRUCTIONS

Use this grant report template to communicate progress on your project objectives to the Virginia Wine Board and its administrative agents.

This simplified form focuses attention on the intended and achieved results of the project, including how project results are separately shared with their intended beneficiaries. This report is not the place for a detailed technical discussion of research methodology or results.

- During the proposal stage, applicants complete the first (WHITE) sections to summarize the project's objectives, deliverables, and intended impact plus planned communication to stakeholders.
- At the midpoint of the project (December 1, due December 15), Research and Education grantees complete the center (GRAY) sections to note progress as well as expenditures to date.
- Finally, upon project conclusion (May 31, due June 30), all grantees complete the final (BLUE) sections to describe the project's results and communication, as well as the final expenditures.

2.0 GRANTEE INFORMATION

Project Title	Characterization of Southern Apples for Cider Production			
Organization	Virginia Tech, Department of Food Science & Technology			
Proposal # *(if needed)*	n/a	Award # *(if needed)*	25-27	
Project Lead		Mailing Address	Research	◊
Name	Amanda Stewart	1230 SW Washington St. 401F	Education	◊
Title	Associate Professor, Dept. of Food Science & Technology	Dept. of Food Science & Technology Blacksburg, VA 24060	Marketing	◊
Email	Amanda.stewart@vt.edu		Continuing?	◊
Phone	540-231-0868		Year	_ of _

3.0 PROJECT OBJECTIVE, PROGRESS, AND IMPACT

3.1 PROPOSAL (February)

Summarize the project objective, the intended deliverable or result, and expected impact. (1-5 sentences or bullets)

The intended result of this project is to build a database containing chemical and sensory information collected from a set of 12-16 Southern climate adapted apple cultivars with high potential for cidermaking, both well known (e.g. GoldRush, Harrison, Albemarle Pippin, Granny Smith) and lesser known (Limbertwigs, Winter Jon). This information will be shared widely with apple growers and cider producers in the region with the intent of facilitating communication between growers and cidermakers around varieties and fruit quality for cider production. We expect that this information will be essential for the continued growth and resilience of the cider industry in Virginia and the South. Furthermore, through this project, we aim to build relationships and collaborations with growers, cidermakers, nursery owners, and other researchers that will facilitate development of federal grant proposals to continue and build on this work in the regional and national context.

Summarize the project's workplan (1-5 sentences or bullets)

We will work with growers, cidermakers and nursery owners to identify a list of 12-16 cultivars, including some already widely used cultivars and lesser-known cultivars with high potential for cidermaking. We will purchase 2-3 bushels of fruit from each cultivar for the project, collect juice samples and make single varietal experimental ciders from each. We will conduct chemical analysis of the juice and both chemical and sensory analysis of the ciders. We will report the findings to cidermakers and apple growers in Virginia, and also to a national audience of cidermakers through CiderCon or Cider Institute of North America (CINA) sessions.

How will you know your project has been successful? What project indicators will measure progress or success? (1-5 sentences or bullets)

We will know that our project has been successful when we have presented our work to a total of 200 industry stakeholders (locally, regionally and nationally), and when these stakeholders (growers and cidermakers) report increased knowledge of varieties available and well-suited to cider production. We will assess this progress through surveys of workshop and technical presentation attendees.

3.2 Mid-Year Report (December)—Research and Education Grants only

The project is going well so far. We generated a list of apple varieties through discussion with growers and cidermakers, and narrowed it down to 17 varieties for evaluation in this project, for which we obtained 3-5 bushels/variety from Virginia growers. We pressed the apples at the Virginia Tech Blacksburg campus and made experimental ciders. Of the 17 varieties, 11 have completed fermentation and are bottled, with 6 still finishing fermentation as of Dec. 13.

We collected juice samples from all varieties for analysis, and are collecting cider samples for analysis, along with the ciders for sensory evaluation as the experimental ciders finish fermentation.

We have done preliminary YAN, pH, and soluble solids (Brix) measurement on the juices as we set up the fermentations, and are measuring residual sugars prior to bottling. We are starting the complete juice and cider chemistry panels now, and this work will continue through January – March.

We are preparing for the sensory evaluation work to be done in the Feb. – Mar. timeframe.

The main obstacle we have encountered was increased cost of lab and processing supplies. This has caused a slight overage on our materials and supplies budget line, and we are working to make that up through efficiencies in other categories. We have taken these cost increases into consideration in our estimation of the cost to complete similar work in the future, and we are confident that we can complete this overall project within the budget and timeline proposed.

3.3 Final Report (June)

The project was successful in that we have been able to make ciders from 17 lots of juice including 15 different cultivars of apples used in cider production in Virginia. We collected juice and cider chemistry data from these samples, and have conducted sensory evaluation by descriptive analysis of the experimental ciders.

We have begun to share our findings with grower audiences, and will continue as described in section 4.0, below.

Our main takeaway is that growers and cider producers alike are already showing a lot of interest in using this information to select and blend fruit for cider production. The first year of this project provided a great starting point in putting together info that growers and cidermakers can use to get more VA grown apples into cider production. The juice and cider chemistry parameters as well as cider sensory characteristics were within expected ranges for commercial ciders, and varied widely among the varieties evaluated, as expected. Based on stakeholder feedback, we are working hard to keep this project rolling for a second or even third year, and we will continue to update the cider and apple industries of VA on our results as we move ahead in this area. We expect that our findings, on the whole, will serve as a useful resource for cider producers to get a general idea of what to expect from a given variety, and help them to navigate fruit purchasing in a way that adds value and efficiency for both apple growers and cider producers.

4.0 COMMUNICATION WITH STAKEHOLDERS

4.1 PROPOSAL (February)

Summarize how you will share project information or results. For example, will you submit for publication in a peer reviewed journal? Present at a technical conference? Conduct a training? Post on a site? Identify the specific audience/s you will inform. (1-5 sentences or bullets)

The results of this project will be communicated to the Virginia cider industry through a combination of presentations and publications. We will work with state, regional and national conference organizers to present this work at venues selected to reach both Virginia and regional/national cider producers and marketers, for example, Virginia Winemakers Research Exchange events focused on cider, the Virginia Association of Cider Makers meeting, and/or the national meeting of the American Cidermakers Association: Cider Con. In addition, we will work to include presentations on this topic in Virginia Cooperative Extension workshops targeting cider producers, and as appropriate in Virginia Tech's Enology Extension programs at local and regional workshops relevant to cidermakers. The results of this study will be published in an appropriate peer-reviewed journal, and key results will be summarized in Virginia Cooperative Extension open-access publications.

4.2 Mid-Year Report (December)—Research and Education Grants Only

To date, we have met with stakeholders at:

Virginia Cider Association meeting on July 22, 2024 in Bluemont, VA – presented overview of this project and held a 20 min moderated discussion among participants (~25 people) to develop an initial list of varieties for consideration for the project. This discussion informed our selections for the project, and helped us to understand the need to include several dual-purpose and dessert apples in the study.

Follow-up phone calls and emails with growers Diane Kearns, David Glaize, Ruth Saunders, and Diane Flynt to discuss apple varieties and availability/harvest timing (June 2024-Nov. 2024)

4.3 Final Report (June)

We have presented our findings to the Virginia Cider Association, on June 23, 2025, to an audience of approximately 28 Virginia cidermakers and apple growers, receiving great verbal feedback here and in other informal discussions.

We will continue to share results of this work in the future, and aim to collect formal evaluation data as we more widely share our findings. We have submitted a proposal to present this work to an international audience of cider producers at CiderCon 2026, to be held in February in Providence, RI, and plan to incorporate this content into Cider Institute curriculum (formerly Cider Institute of North America, online and in-person cider education). Between these events, we expect to reach about 200 people during 2026. We will also continue to seek out Virginia venues for presentation to growers and cider producers.

5.0 BUDGET

Budget Summary			Mid-Year Research/Education only		Final	
Expense Category	**5.1 Requested**	**5.2 Awarded**	**5.3 Spent**	**5.4 Remaining**	**5.5 Spent**	**5.6 Remaining**
Personnel	26,540	26,540	12,090.87	14,449.13	26,119.10	420.90
Fringe Benefits	8,245	8,245	3660.70	4584.30	8,242.43	2.57
Travel	2,000	2,000	0	2,000	847.99	1,152.01
Equipment (Rental)	n/a	n/a	n/a	n/a	n/a	n/a
Supplies	7,050	7,050	7,597.85	(547.85)	10,698.21	-3,648.21
Contractual	4,200	4,200	436.50	3,763.50	1,749.00	2,451.00
Other	n/a	n/a	n/a	n/a	n/a	n/a
Total	$48,035	$48,035	23,785.92	24,249.08	47,656.73	378.27