

Educator Toolkit













A citizen science approach to preserving biodiversity and connecting with community.





In addition to all the youth interviewers who are essential to the success of this project, the team that helped bring this project together includes:

Cornell Garden-Based Learning, Department of Horticulture

Erin Marteal, Assistant for Project Planning and Development Angela McGregor Hedstrom, Assistant for Project Development Tom Jahn, Web Application Developer Lori Bushway, Project Coordinator

Cornell Cooperative Extension

Leigh MacDonald-Rizzo, Ithaca Children's Garden Education Director

Department of Natural Resources

Marianne Krasney, Project Advisor and Principle Investigator of Garden Mosaics Keith Tidball, Project Advisor and National Program Leader of Garden Mosaics

This toolkit is available as a free download from Cornell Garden-Based Learning: blogs.cornell.edu/garden/get-activities/signature-projects/vvi/

We welcome your feedback: Cornell Garden-Based Learning Department of Horticulture vegvariety@cornell.edu 607-255-5918

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Nametags

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Vvi: Vegetable varieties investigation

A citizen science approach to preserving biodiversity and connecting with community



WHO: YOUTH AND COMMUNITY GARDENERS

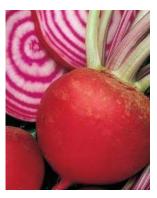
WHAT: YOUTH INTERVIEW GARDENERS ABOUT THEIR OPINIONS ON VEGETABLE VARIETIES AND SUBMIT THEIR FINDINGS TO AN ONLINE DATABASE

The Vegetable Varieties for Gardeners database serves as a library of vegetable variety data and a tool for gardeners, plant breeders, and horticulture researchers.



WHY: SUPPORT RESEARCH EFFORTS, PRESERVE KNOWLEDGE, PROMOTE BIODIVERSITY, AND BUILD SKILLS

Youth participants gain skills in interviewing, data collection, reporting, and working as a team. As they connect with adult gardeners, there are opportunities for supporting multi-generational and lifelong learning. Youth also experience some of the numerous benefits of garden-based learning such as fresh nutritious food, exercise and wellness, opportunities to connect with community, and time spent outdoors.



"What vegetable varieties will grow best in my garden?" Gardeners have been asking this question for centuries. Few gardeners grow everything, but collectively gardeners across the world grow hundreds of crops and thousands of specific varieties. The knowledge gardeners have about vegetable varieties is astonishing, and plays a critical role in preserving biodiversity. Through Vvi, youth use the interview process to gather gardeners' opinions about specific vegetable varieties they have grown. Participants learn about traits of specific varieties of vegetables and find out why gardeners grow some varieties and avoid others. By sharing findings via the Vegetable Varieties for Gardeners website, youth will contribute to an online library of vegetable variety reviews that:



- assists scientists with understanding traits of specific vegetable varieties and how they perform in various regions and garden settings
- helps gardeners select appropriate varieties for specific growing conditions and desired outcomes
- compiles the experiences of gardeners from many locations and backgrounds
- serves as a tool for promoting biodiversity

HOW: OUR ONLINE TOOLKIT PROVIDES STEP-BY-STEP INSTRUCTIONS AND ACTIVITIES for youth to learn about biodiversity and build skills in interviewing and data collection.

Vegetable Varieties for Gardeners (VVfG) is a citizen science program for all gardeners. Vvi is the youth component of the program.

Vvi BASICS

- 1. **Register with Vegetable Varieties for Gardeners.** Even if you don't have a garden, proceed as though you do have one in your area. Once you are registered, send an email to vegvariety@cornell.edu and request to become a Vvi Leader.
- 2. **Manage your Vvi groups** by logging in to VVfG and clicking on "Manage my Vvi Groups". From here you can create groups, establish an access code for each group, approve and/or edit student data.
- 3. **Identify gardeners** in the local community who are willing to share their opinions about growing specific vegetable varieties. If you need help identifying a community garden contact your local Cooperative Extension office (csrees.usda.gov/Extension/) or ACGA (acga.localharvest.org).
- 4. **Orient youth** to Vvi concepts and skills through a combination of activities included in the toolkit. Explore the VVfG website together.
- 5. **Plan gardener interviews**. Decide on the format, date, and location. Meeting in the garden is a wonderful way to engage youth and provoke further questions. Host a garden party, offer door prizes, or collaborate with an already-planned garden event to encourage gardener attendance.
- 6. Youth conduct interviews, collect data, then submit online.
- 7. **Vvi Leaders approve all content** input by youth then it is added to the VVfG database.

Vvi Educator Toolkit: blogs.cornell.edu/garden/get-activities/signature-projects/vvi/ Vegetable Varieties for Gardeners: vegvariety.cce.cornell.edu







Frequently Asked Questions

Q: Who can participate?

Vvi is geared toward middle and high school-aged youth groups, although anyone can participate. Vvi is ideal for:

- student environmental organizations
- students seeking independent study options
- advanced placement science students
- youth/teens considering careers in science research, community development, or the horticultural industry
- special interest teen/youth groups
- faith-based teen/youth groups
- Boys and Girls Clubs
- key Clubs
- community service groups
- 4-H groups
- scouts
- any informal setting in which teenage youth gather with the guidance of an adult leader

Q: What is required to execute Vvi?

- an adult leader to coordinate the project
- Vvi toolkit (blogs.cornell.edu/garden/get-activities/signature-projects/vvi/)
- several hours of advance planning and 4-6 hours in active program execution
- youth participants and a meeting place with computers which have Internet access
- access to home or community gardeners

Q: What can I expect from the Vvi toolkit?

- comprehensive instructions
- templates and sample forms
- all materials needed to carry out program
- · estimated time commitment
- contact information for support
- · suggested resources and links

Q: My group likes to have fun. Vvi seems like a lot of work. Will this feel like school?

It's true that Vvi is about science, data collection, and there is learning that takes place—fun, hands-on learning. Science does not have to be boring, and you'll see that first hand with your Vvi experience.

Q: My 4-H group meets during the summer. Will Vvi work for us?

Absolutely. The Vvi program works very well during the summer. You will likely find that gardeners are most accessible during the summer months, especially through your local community gardens. Just be sure you begin planning as soon as possible, so you allow sufficient time for all the program stages (advance planning, orienting youth, field work, reporting data, follow up/evaluation).

Q: Our students meet during the school year. Can we still do Vvi?

Yes!

FALL

Early autumn through harvest is an ideal time to interview gardeners for three reasons. First, many gardens are overflowing with ripe produce, ready for harvest, and visiting the garden spurs students' own questions. Second, gardeners' opinions of what they have grown during the season are fresh on their minds. Third, some gardeners may be willing to arrange for students to taste test ripe varieties right from the garden. This allows students to deepen their understanding of the work they are doing.

SPRING

Spring is also a good time to do Vvi, as gardeners are planning their gardens for the coming season, and reflecting on what varieties have performed well in the past. A sample spring Vvi program may begin planning in January/February, orient youth in March, and interview gardeners in April or May. Interviews at this time of year could take place in a newly planted garden.

WINTER

If visiting a garden setting is not a priority for your group, Vvi can be executed any time of year, even in the middle of winter. The essential element of Vvi is interviewing gardeners. Gardeners are around all year, even when their gardens are dormant. If you choose to do a winter program, allow extra time to identify your gardeners, or make connections with local community gardeners the preceding autumn. You might also consider planning a field trip the following growing season, to visit your gardeners' gardens.

Q: Our youth group meets monthly. Will Vvi work with our schedule?

Yes. Vvi is especially designed to be flexible and easily modified to suit the needs of your group. When you are creating your time line and program agenda, be sure to make the appropriate adjustments, and build in extra time to review information learned in previous sessions.

Q: Our group meets weekly. Will Vvi work for us?

Yes. Vvi works very well with a weekly schedule. Just be sure to design your Vvi time line accordingly.

Q: We meet regularly, but with different students each week. Can we do Vvi?

Vvi works best when students follow through from start to finish. Proper orientation prepares students for effective interviewing, and sharing data they collected themselves is a source of pride and essential for accurate reporting.

Q: Will Vvi help students meet learning standards?

See *Learning Standards and Assessment* to find out how Vvi fits together with research, science learning, and assessment tools.



Learning Standards and Assessment

The following toolkit sections are geared toward educators in formal settings:

- 1. Main Performance Indicators
- 2. Research
- 3. Science Learning
- 4. Assessment Tools

1. MAIN PERFORMANCE INDICATORS

Commencement level:

- Explain the importance of preserving diversity of species and habitats.
- Describe the range of interrelationships of humans with the living environment.

Intermediate level:

- Describe sources of variation in organisms and their structures and relate the variations to survival.
- Describe how living things, including humans, depend upon the living environment for their survival.

2. RESEARCH

Research Project Objective:

To determine the success of specific vegetable varieties in relation to particular growing conditions and desired outcomes by gathering gardeners' opinions.

Research Questions:

- What are the characteristics of the gardener's growing site?
- What is the gardener's experience level?
- What vegetable crops does the gardener grow?
- On a scale of 1 to 5, how does the gardener rate particular vegetable varieties with regard to overall satisfaction, taste, ease/reliability, and yield?

Why is researching Vegetable Varieties for Gardeners important?

Choosing the right plant for the right location is one of the most critical factors in both gardening success and ecological stability and sustainability. However, research on the performance of vegetable varieties is often limited to commercial production. Home and community gardens are frequently overlooked, in part, because visiting thousands of gardens to collect data would be an overwhelming task.

Yet, collectively, gardeners possess an astonishing amount of knowledge about vegetable varieties. By compiling the opinions of a wide range of gardeners, a valuable pool of information is produced. Gardeners learn from gardeners. Scientists, plant breeders, and seed companies learn from gardeners. Their collective knowledge is available for the success of future generations and the promotion of biodiversity.

Why is promoting biodiversity important?

Diversity is one of the principle qualities of nature, and essential to ecological stability and sustainability. Historically, farmers across the world raised thousands of vegetable varieties that were uniquely adapted to specific climates and conditions. With the advent of industrial agriculture and mass commercial production, selection of vegetables focused on fewer varieties which produce heavy yields and withstand transport across great distances. Consequently, vegetable varieties which evolved over thousands of years to grow in certain conditions and for a particular flavor were lost in many plant breeding programs. Continual decrease in the number of vegetable varieties grown will ultimately lead to the loss of unique genetic information and characteristics that can lead to local adaptation. With a limited gene pool, crop success can become more dependent on heavy inputs of fertilizers, pesticides, and irrigation.

Unlike commercial agriculture, gardeners have traditionally chosen vegetable varieties for their superior taste, acclimation to unique growing conditions, and cultural and historic significance. Centuries of effort by gardeners have diminished the loss of unique genetic information. And tapping gardeners' experience and knowledge now will help us catalogue and preserve the diversity of our vegetable varieties history for future success and sustainability.

3. SCIENCE LEARNING

Vegetable Varieties Investigation is a great opportunity for youth to learn about two aspects of science:

- 1. Skills critical for science inquiry, or "doing science."
- 2. Content, which includes facts and concepts.

"Skills for Inquiry" Learning Objectives

Conducting the Vegetable Varieties Investigation with youth will help youth learn the following skills critical in developing and testing hypotheses:

- Master concepts (such as vegetable crops, types, and varieties) and the value of carrying out a specific protocol in order to gather quality data.
- Learn and apply interview skills to gather opinions from gardeners using specific survey approaches and data forms.
- Synthesize and transfer verbal information from gardeners to data forms.
- Submit data electronically by transferring written data to online data forms.
- Reflect on data collected to shape content and approaches for further inquiry investigations they might carry out on their own.

"Content" Learning Objectives

Conducting the Vegetable Varieties Investigation with youth will help youth learn the following facts and concepts:

- Vegetables, vegetable varieties, and particular characteristics of different vegetable varieties.
- Physical, biological, cultural and ecological science concepts related to the garden environment, vegetables crops, and vegetable growing practices.
- The historical and contemporary importance of biodiversity and how it links to vegetable varieties
 in gardens, agricultural systems, and the produce section of our grocery stores and farmers markets.

4. ASSESSMENT TOOL

Skills for Inquiry Learning Objectives	Evidence of Learning	
	The Vvi activities and the interview planning	
Master concepts and the value of carrying out a specific	discussion are evidence of youth's ability to	
protocol in order to gather quality data.	understand how the survey questions relate	
	to specified research questions.	
Learn and apply interview skills to gather opinions from		
gardeners using specific survey approaches and data forms.	The completed data forms are evidence of	
	youth's ability to effectively apply their inter-	
Synthesize and transfer verbal information gathered from	view skills to gather the appropriate data.	
gardeners to data forms.		
	The appearance of youth's collected informa-	
Submit data electronically by transferring written data to	tion in the online database is evidence of	
online data forms.	youth's ability to submit data electronically.	
Reflect on data collected to shape content and ap-	Youth participation in the post interview dis-	
proaches for further inquiry investigations.	cussion indicates youth ability to relate skills	
	to future inquiry projects.	
Content Learning Objectives	Evidence of Learning	
	Initial and closing activities and discussions	
Vegetables, vegetable varieties, and particular character-	about vegetable gardening, vegetable varie-	
istics of different vegetable varieties.	ties, gardener responses, and biodiversity	
	will help assess changes in youth knowledge	
Physical, biological, cultural and ecological science con-	about key concepts.	
cepts related to the garden environment, vegetables crops		
and vegetable growing practices.	The quality of the data the youth collected	
	on the Gardener Profile and Rate this Variety	
The historical and contemporary importance of biodiver-	Forms will also indicate understanding of	
sity and how it links to vegetable varieties in gardens, agri-	concepts.	
cultural systems and the produce section of our grocery		
stores and farmers' markets.		

Additional ideas for collecting evidence of learning:

- Use sign-in sheets, data collection forms, notes, and photos to help you remember who participated and important learning moments during the Vegetable Varieties Investigation.
- During the interview(s), notice the youths' interview skills and interactions with the gardeners. Are they able to obtain the information needed to complete the Vegetable Varieties data forms? Do they ask follow-up questions? Do they ask new questions based on their own interest in the gardener's responses?
- Use a camera to document youth participation in the interviews. You may already be using a camera to take photos of the gardener and plants in the garden, but you can also take pictures of the youth as they conduct the activity.

Ideas for further assessment of learning:

- Compile best and poorest rated varieties from the gardeners interviewed, or create a list of recommended vegetable varieties by crop for the local garden or community at large. Youth can post the results in the garden for other gardeners to see and add them to their scrapbook/documentation.
- Youth may ask the gardeners for a recipe that reflects the cultural use of a vegetable variety they
 grow. They can write up the recipe along with a description of the plant and the role it plays in the
 gardener's culture. Make copies of the recipe for youth to take home and share with their families.
 These can also be posted in the garden for others to use or compiled for a book or program website.



Advance Coordination

TIME COMMITMENT:

The following time estimates are general guidelines to help you plan, and may vary considerably for each group. This schedule assumes you already have an organized youth group that meets regularly.

- 3-4 hours advance coordination by adult leader
- 2-3 hours orient and prepare youth
- (interview skills, vegetable variety activities, and project overview)
- 1-2 hour youth interview gardeners and collect data
- 30 min-1 hour youth report data online
- 30 min-1 hour evaluation and follow up

TOTAL: 7-11 hours

KEEP IN MIND:

- The ideal ratio of youth participants to gardeners is 2:1. This allows all youth to play an important role in asking questions or recording responses.
- You may need to arrange for a translator if the gardener speaks another language. If some of the youth in your group share a language with the gardener, they may be able to translate.

BEFORE MEETING WITH YOUTH:

- 1. Register you and your group on the Vegetable Varieties for Gardeners (VVfG) website: vegvariety.cce.cornell.edu. First, register yourself as a user of the site. This will require you to input info on your local area and a garden of your own (if you do not have a garden, please proceed as if there is one at your site). Second, send an email to vegvariety@cornell.edu with the subject line "Create Vvi Group". Include your name, type of group (4-H, after school, 9th grade class, home school, etc.), and the email you used to set up your own garden profile. We will let you know when your group status has been activated.
- 2. **Manage your Vvi groups** by logging in to VVfG and clicking on "Manage my Vvi Groups". From here you can create groups, establish an access code for each group, approve and/or edit student data.
- 3. **Distribute and collect completed parent/guardian permission forms** of youth participants. Adult leader(s) also needs to sign photo release form if their pictures will be submitted to the website. (youth permission form, leader permission form)
- 4. **Identify gardeners** in the local community who are willing to share their opinions about growing specific vegetable varieties. Community gardens are a great place to find gardeners passionate about growing vegetables. If you need help identifying a community garden or other source of vegetable gardeners, contact your local Cooperative Extension office for suggestions. Increase your odds of drawing gardeners by using multiple methods to recruit; for example hanging posters (at least 2 weeks ahead of your scheduled interviews), emailing community gardeners, and contacting your local Cooperative Extension office (csrees.usda.gov/Extension/).

- 5. **Decide on the format, date and location of your interviews.** Meeting in the garden is a wonderful way to engage youth and provoke further questions. You may choose to host a pizza party, offer door prizes, or collaborate with an already-planned garden event to encourage gardener attendance. Seek out donations of goods and services from local businesses. Seeds make a great give-away for gardeners. You may find that gardeners are excited simply by the chance to speak with young people about their garden. (sample request letter)
- 6. **Contact the gardeners** to arrange the visit. Describe your group and share the goals of Vegetable Varieties Investigation and your purpose for coming to their garden. Arrange a specific time for the youth to conduct the Vegetable Varieties Investigation and make arrangements for a rain date if planned outdoors. If you are in phone or email contact with gardener(s), confirm two days prior to the scheduled interviews. (sample letter to gardener)
- 7. **Develop a general time line** for conducting the conversations with gardeners from start to finish. Add the specifics and assign times for each activity to create your agenda for your garden visit. Modify this approach according to your group's needs and resources. Be sure to allow enough time at the garden for all components of your plan. (sample agenda, sample sign in sheets for event with gardeners, sample nametags, sample supplies checklist for event with gardeners)
- 8. **Ask permission to interview and photograph the gardener and garden.** Have the Gardener Permission Form ready to use. (gardener permission form)



Orienting Youth

DAY 1: LAYING THE GROUNDWORK

- 1. Explore vegetable varieties. Activities: You Be the Judge, Produce Sorting
- 2. **Introduce & explore biodiversity.** Activities: Defining Biodiversity, Fact or Fiction, Biodiversity Collage, A Favorite Meal
- 3. **Introduce Vvi and students' roles in Vvi.** Keep this simple. Tell students they will 1.interview gardeners about the vegetable varieties they grow 2. record gardener responses, and 3. share this data online during a follow-up session. Allow students to use their understanding of biodiversity to propose an explanation for why studying vegetable varieties is important to gardeners, scientists, and everyone.
- 4. Let students know the information they collect during the interviews may be used for two purposes. The first is to gather data from gardeners for submission to the Vegetable Varieties for Gardeners website. The second is to gather answers to any of their own questions and to learn more about their own interests.
- 5. **Browse the Vegetable Varieties database with students** (vegvariety.cce.cornell.edu) before meeting with gardeners. Explore crops and varieties and read over some of the vegetable varieties reviews others gardeners have submitted.

DAY 2: GEARING UP

- 1. **Review** what they learned about biodiversity, vegetable varieties, and the Vegetable varieties investigation.
- 2. **Practice interviewing.** Activities: Interview Skill-Building and role play effective and ineffective interviewing techniques, discussing with students.
- 3. **Divide group into pairs** as the ideal ratio of youth participants to gardeners is 2:1. This allows all youth to play an important role in asking questions or recording responses.
- 4. Help each group plan how they want to carry out the interview. To keep the youth involved, it is important for each youth to be responsible for a particular task throughout the interviews (this may mean that some youth have more than one role). Help the youth decide: Who will introduce the group and the activity to the gardener? Who will record gardener responses? Who will help keep the conversation focused? (Should they let the gardener talk about other things? Why might it be important to let the gardener talk freely? How much should they interrupt to get back to their questions? How should they end the interview? Now give students a chance to practice conducting the vegetable varieties investigation using the actual data forms by interviewing the adult leader or another volunteer or a youth gardener in the group.

- 5. **If cameras are available, designate a photographer.** This can be a youth participant not involved in an interview group or an adult assistant skilled in using a camera. The adult leader might find it challenging to take photos and assist groups needing help. Photos can be used for the groups records and be submitted to the Vegetable Varieties Investigation website.
- 6. **Youth may want to record the interview.** Audio taping allows youth to refer back to the interview if questions arise about what they heard. If a tape recorder will be used, designate a youth volunteer to handle the tape recorder and be sure to get gardeners' permission to be taped.

OTHER SUGGESTED ACTIVITIES

Matching Game: Instructions, Answer Key, Unusual Variety Photos, Unusual Variety Names Catalog Writers
Plants in our daily lives
Veggie Vote
3 Steps to a Great Interview (part of Interview Skill-Building)



Field Work — Interview Day

Here you'll find tools and resources for the day (or days) you and your students interview gardeners and gather all the data they will then report. This can be done any number of ways. We suggest making it an event for both the students and the gardeners. See the toolkit section *Templates and Forms* for the below documents:

	Sample Agenda
Ш	Sample Supplies List
Ma	terials for each student:
	3-ring, 1-inch binder stuffed with the following "Youth Handbook" contents
	Youth handbook cover
	Vvi youth handbook outline
	Introduction to gardeners
	Informational flyers
	Great Interview Steps
	Terms to Know
	Garden Profile (about 3 copies)
	Rate This Variety Form (about 15 copies)
	Mistaken Identities
	State Frost-Free Map
	Gardener Card
	Scrap paper
	Pencil
	Name tag
For	entire group (optional):
. · · ·	Camera and film or digital camera
H	Audio recorder and related supplies (blank tape, batteries, etc.)
H	Drinks and snacks
For	gardeners:
	Permission forms
	Gardener sign-in sheet
	Name tags
	Markers
	Thank you gift (optional)

INTERVIEWING GARDENERS AND COLLECTING DATA

- 1. If cameras or tape recorders will be used, distribute these.
- 2. Designate a youth or the adult leader to welcome the gardeners as they arrive.
- 3. Ask gardeners to sign the permission form and gardener sign-in form. Gardeners name tags are also helpful.
- 4. Match each interviewing pair with a gardener. Prompt the interviewers to introduce themselves using the first page in the notebooks to get started. If recording remember to ask permission and make sure the recorder is close enough to the gardener to capture the conversation.
- 5. Prompt the photographer(s) to begin capturing the youth and gardeners interactions. Be sure to respect youth and gardeners who have not given permission for their pictures to be used.
- 6. Encourage the youth to begin asking questions. Youth should take note of which questions require responses and which are optional.
- 7. At the conclusion of each interview, make sure youth fill out the gardener card and give it to the gardener to take home.
- 8. Thank the gardener before leaving.

IMMEDIATELY FOLLOWING THE INTERVIEWS

- 1. Review the completed data forms. Make sure the information is complete, legible and all questions are answered.
- 2. Debrief the interview with youth. Ask:
 - What did you discover about the gardener?
 - What did you find out about vegetable varieties?
 - Did you learn anything new about gardening?
 - Discuss differences among gardeners in planting practices, uses of the plants, and preferences for certain varieties. What factors might be responsible for some of these differences?
 - What new thing did you hear that you would like to follow up on?
 - What did you find confusing?



Report Data

INSTRUCTIONS FOR YOUTH DATA SUBMISSIONS

- 1. Youth submit data collected through gardener interviews online at vegvariety.cce.cornell.edu
- 2. The adult leaders must register before the youth can enter their data online. (See *Advance Coordination*)
- 3. Youth pairs should gather their original forms from their own binders and visit vegvariety.cce.cornell.edu.
- 4. Click on the login link. Youth will use email address and passcode as assigned by leader and then can begin submitting data.
- 5. The adult leader should have simultaneous online access to quickly approve student-submitted data. Follow the approval process outlined below:

INSTRUCTIONS FOR APPROVAL PROCESS

Quality data is critical. Each profile and rating successfully entered will become part of the Vegetable Varieties for Gardeners online library, a tool researchers and gardeners will use to evaluate vegetable varieties' characteristics. A vital role of the adult leader is to ensure the interview teams submit data that accurately reflects what the gardeners shared. To facilitate this, adult leaders are responsible for reviewing and approving youth submissions before they are added to the database.

Each garden profile and variety rating requires leader approval. Please carefully check the following before issuing approval:

APPROVAL CHECKLIST

Ш	Does the Variety name appearing on the screen exactly match the Variety name written on the
	Rate this Variety Form?
	Does the Crop name appearing on the screen exactly match the Crop name written on the Rate this
	Variety Form?
	Do the number of stars appearing for overall, taste, yield, and ease/reliability exactly match the
	number of stars for each on the Rate this Variety Form?
	Does the review online match the review written on the Rate this Variety Form?
	Does the review make sense?
	Are the words spelled correctly?
	Are grammar and punctuation correct?
	Does gardener's email exactly match the email on the Garden Profile?
	Does gardener's screen name exactly match screen name on Garden Profile?
	Does gardener's county and state match those on Garden Profile?
	Does gardener's frost free season match the one on Garden Profile?

FOLLOW-UP AND EVALUATION

- Gather feedback from youth about the gardener interviews.
- Send each gardener a note confirming that ratings and reviews have been added to the website database and thanking them for their participation.
- Share feedback with Vvi team (garden@cornell.edu).



Activities

Below are descriptions for the activities used in the *Orienting Youth* section. The order in which you facilitate the activities may vary depending on your program needs. In the proceeding pages, you will find detailed lesson plans for each.

YOU BE THE JUDGE: Students role play gardeners as they taste, assess yield, and read ease/reliability statements based on various blueberry varieties. This activity can be adapted to other vegetables and fruit.

PRODUCE SORT: Using a number of crops and varieties within a single crop, students will sort produce to understand crop, type, and variety characteristics.

DEFINING BIODIVERSITY: As a group, participants will build a working definition of biodiversity. Fact or Fiction: Working in small groups, students explore the statement: "Without biodiversity, none of our food could be produced."

BIODIVERSITY COLLAGE: Students clip from magazines images that represent biodiversity to them. In addition to including images of nature and wilderness, encourage students to stretch – looking for signs of biodiversity in human and artificial environments.

A FAVORITE MEAL: Students describe their favorite meal and name ways biodiversity played a role in getting that meal to their plate.

VEGETABLE VARIETIES MATCHING GAME: Participants are challenged to match a vegetable variety image to its name. Emphasis is on reasoning and whimsy, rather than correct matching.

CATALOG WRITERS: Students view a selection of photos of vegetable varieties. They will choose one to write a description of and name, with the aim of capturing customers' attention. Students are encouraged to use their imaginations as well as anything they already know about how things grow to accomplish the task.

PLANTS IN OUR DAILY LIVES: Students examine their surroundings for items and determine whether each item was derived from plants in some way.

VEGGIE VOTE: Students open an envelope with profiles of three different varieties of a particular crop (either lettuce or beets). They are given a scenario that requires them to select only one variety of the crop to grow. Based on the information they have for each of the candidates, which "candidate" will they vote for and why? Can students defend their choice well, and convince others to also "vote" for their candidate?

INTERVIEW SKILL-BUILDING and **GREAT INTERVIEWS IN 3 STEPS**: Students will learn interviewing skills in four parts; by 1. practice interviewing and being interviewed by a partner, 2. review 'Postive Interviewing Skills', 3. observe both effective and ineffective techniques modeled by an interview with the group leader, and 4. incorporate new skills into another practice interview.



You Be the Judge

Overview

Youth will be asked to pretend they are gardeners and have grown the varieties of blue-berries provided. They will taste, assess yield, and read ease/reliability statements. Then they must rate each variety of blueberry on the *Rate this Variety* form.

Standards

(NYS): Science: 1, 4.1, 4.3, 4.5, 4.6, ELA: 1, 2, Social Studies: 5.3

Objectives

- To provide youth with an opportunity to rate varieties based on taste, yield, ease/reliability, and overall satisfaction.
- To illustrate the importance of knowing variety name
- Familiarizes students with the process gardeners use to rate varieties.

Materials

- 3-4 varieties of fresh blueberries
- Container for each variety
- One Rate this Variety form: for every participant and variety
- Pencils
- Activity instructions and ease/reliability descriptions (below)

Instructions

- 1. Display blueberry varieties in baskets respectively labeled with variety names.
- 2. Assign different amounts of each variety to their containers, i.e. one basket is over-flowing, one is 3/4 full, one is half full, and one is ¼ full.
- 3. Cut out the ease/reliability descriptions and assign each to a variety of blueberry. Make sure the statements correspond with their variety's respective "yield." Youth will use these descriptions to determine a rating for ease/reliability.
- 4. Set out Rate this Variety forms and pencils.
- 5. Remind participants to wash hands first. Then ask participants to begin rating:
- ☐ Taste: Youth can taste one of each variety until all have had a chance to rate.
- ☐ Yield: Each berry basket will have few, some, many, or tons of berries, which corresponds to the amount of berries harvested from the garden altogether for the season.
- ☐ Ease/Reliability: See descriptions below and assign each to one of the blueberry varieties.
- Overall: Based on all of the above, how would they rate each variety?
- Review: What else would you say about each variety?
- 6. Encourage discussion throughout the activity. Ask questions such as:
- ☐ Which variety tasted the best?
- ☐ Why did you give that one a 2, and that one a 4 for yield?
- If you only had room in your garden for one of these varieties, which would you grow? Why?
- ☐ Why is it important to know variety names?

Taking it Further

This activity can easily be modified by using other fruit (such as apples) or vegetables (such as carrots), depending on what is available.

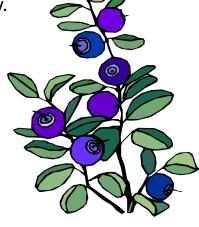
Congratulations! You are a gardener, and you grow blueberries. This season you grew 4 varieties of blueberry.



Directions

Rate each blueberry variety based on taste, yield, ease & reliability, and overall, on a scale from 1 to 5.

Use a Rate this Variety Form for each variety you rate.





1. Taste

Taste one berry from each basket and rate from one to five (5 = most tasty, 1 = least tasty).

2. Yield

Each berry basket has all the berries harvested from one bush on a single day. Based on the number of berries you see in the basket compared to other varieties, rate this variety on yield (5 = highest yield, 1 = lowest yield).



Each blueberry variety has a description with it describing "your experience" growing this variety. Use this description to assign a score of 1-5 for ease and reliability (5 = difficult to grow, 1 = easy to grow).



4. Overall

Based on everything you have seen, read, and tasted, give the variety an overall rating (5 = best, 1 = worst).



5. Review

What else might you say about this variety?

Ease/reliability descriptions for blueberry varieties:		
This blueberry bush got attacked by several kinds of pests and also got infected with a mysterious fungus. Once I began checking on the plant daily and spraying it regularly with natural fungicide, the plant did well.		
This blueberry, though I planted it in a less than ideal site in my garden, grew vigorously and produced well. There were no noticeable pests or diseases all season.		
We had a very, very dry summer, and I was so busy I rarely watered this blueberry bush. It was clear the heat and drought decreased berry productivity from previous years but rest of the bush stayed pretty healthy and resistant to pests and diseases.		

No matter what I did, I had a hard time getting this thing to grow! I started out doing a soil pH test and added the proper amendments. Then I nursed it through the entire season, carefully watering, pruning, and fertilizing but it just doesn't seem to produce much fruit. I have read everything about growing blueberries, but nothing seems to work with this plant!



Produce Sort

Overview

Using a number of crops and varieties within a single crop, students will sort produce to understand crop, type, and variety characteristics.

Standards

(NYS): Science: 1, 4.1, 4.3

Objectives

To learn about the relationships among crop, type, and variety.

Materials

- Local produce 2 or more varieties of several crops
- Baskets for sorting
- Paring knife
- Cutting board



Instructions

- 1. Gather vegetable varieties of at least two or more vegetable crops from a farm stand or another location that can identify the produce down to variety. Often the grocery store does not supply such details. If you have enough varieties, you could even use one crop. For example, during peak season, an assortment of cherry tomato varieties provides a nice look at diversity within a crop and type.
- 2. Place produce in basket or bucket.
- 3. Ask participants to sort them into their proper crops, then into types (if applicable), and then varieties. Step aside and let participants struggle with this challenge alone. Step in occasionally with an encouraging word such as, "Great job! You only have two out of place."
- 4. Ask youth why they think the varieties look different, how they imagine they taste, etc.
- 5. Read the variety names and see if the youth can guess the right name for each variety.
- 6. Cut and prepare the produce for a taste test. Were their hypotheses on taste correct, or were they surprised? Why might people grow some of these unusual varieties?

Taking it Further

Seed Sorting: If fresh produce is unavailable, substitute seed packages with variety pictures.



Defining Biodiversity

Standards (NYS): Science: 1, 4.1, 4.2, 4.5, ELA: 1, 3

Objectives As a group, participants will build a working definition of biodiversity.

Time 15 minutes

Materials • easel or chalkboard

marker or chalk

1. Working in a group, ask students what two words comprise the word, "biodiversity."

2. Next, invite students to define **diversity**, then **biological**, and record the responses.

Based on these definitions, craft a group definition of **biodiversity**. This can be your group's own definition, reflecting the specific words and values generated by the students. A couple of example definitions are included here for your reference. A thorough list of biodiversity definitions can be found by searching online for "biodiversity definition".

- "The variety of life forms: the different plants, animals and microorganisms, the genes they contain and the ecosystems they form. It is usually considered at three levels: genetic diversity, species diversity and ecosystem diversity"
- "The variety of life on our planet, measurable as the variety within species, between species, and the variety of ecosystems"



Biodiversity Collage

Overview

Students clip from magazines any images that represent biodiversity to them. In addition to including images of nature and wilderness, encourage students to stretch – looking for signs of biodiversity in human and artificial environments.

Standards

(NYS): Science: 4.1, 4.3, ARTS 1,2

Objectives

To become familiar with biodiversity by creating a visual image of what biodiversity looks like.

Time

30 minutes - 1 hour

Materials

- magazines
- scissors
- gluesticks
- poster board



- To get started, ask the group to describe biodiversity. Students should feel free to share whatever comes to mind, without judgment or correction. This warm-up should refresh individual interpretations for students who already know something about biodiversity. For groups who may not be familiar with biodiversity, plan to spend more time introducing the term. (See Defining Biodiversity activity.)
- 2. Working individually or in pairs, cut images from magazines that represent biodiversity to you. As a group, use these pictures to make a collage and explain how each image represents biodiversity.

Taking it Further

Make a power point presentation using online art to create a biodiversity slide show.



A Favorite Meal

Overview

Students will describe their favorite meal and name ten ways biodiversity played a role in getting that meal to their plate.

Standards

(NYS): Science: 4.5, 4.6

Objectives

Develop evidence of the important role biodiversity plays in daily lives.

Time

15 minutes

Materials

paper

pencil

Instructions

- 1. Working individually, instruct students to name their favorite meal and write this down on a piece of paper.
- 2. Challenge each student to name ten ways biodiversity played a role in getting this meal to their plate.
- 3. After five minutes, allow students to work in pairs to help each other to complete their list of ten.
- 4. Come together as a group and invite students to share their favorite meals and ten roles of biodiversity. Allow for comparison and further discussion.



Vegetable Varieties Matching Game

Overview

Challenge participants to match a vegetable variety image to its name. Emphasis is on reasoning and whimsy, rather than correct matching.

Standards

(NYS): Science: 4.1, 4.2, ELA: 4

Objectives

An ice-breaker to introduce fun, interesting and surprising vegetable varieties.

Time

15 minutes (5 min prep)

Materials

- Variety images
- Variety names
- Answer key
- Scissors



Instructions

- 1. Cut out variety images and variety names in advance.
- 2. Set variety names around on each seat, before youth arrive.
- 3. As participants arrive, hand a variety image to each. Ask them to sit in the seat with the variety name they think corresponds to their image.
- 4. Conversation might emerge naturally as they share and compare what they have and try to find their correct match. Suggest talking with each other if they are having trouble!
- 5. Once everyone has matched up with a name, ask each person in the group to share what they have. Encourage sleuth work and more sharing if someone does not think they have the correct match. The leader can tell each participant whether they are correct or incorrect, but leave it up to the participants to re-match their images.
- 6. Ask participants what they learned. What was surprising? Did they learn anything new? How did they figure out their match?

Taking it Further

Take it a step further by providing seed catalogs for participants to cut images and names from. Gather these and repeat the activity with the newly selected varieties.



Vegetable Varieties Matching Game Photos









Vegetable Varieties Matching Game Photos





Vegetable Varieties Matching Game Names

X Cut out these variety names for the Vvi Matching Game

Red Meat	Red Giant
Yellow Oxheart	Rat-Tail
Black Pearl	Sunshine
Black Pearl	Bonbon
Black Pearl	Carmen
"P"	Bright Lights
Mr. Big	Baby Bear



Vegetable Varieties Matching Game Answer Key



Black Pearl Crop: Tomato Photo courtesy



Black Pearl Crop: Bean Photo Courtesy Territorial



Black Pearl
Crop: Ornamental Pepper
Photo courtesy All
American Selection



Crop: Mustard
Photo Courtesy of Southern
Exposure Seed Exchange



Red meat Crop: Radish Photo courtesy Johnny's Selected Seeds



Yellow Oxheart Crop: Tomato Photo Courtesy of Southern Exposure Seed Exchange



Crop: Pumpkin
Photo courtesy CSU College
of Agriculture Sciences

Baby Bear



Sunshine
Crop: Pumpkin
Photo courtesy All American
Solection



Bright Lights
Crop: Swiss Chard
Photo courtesy All
American Selection



Rat-Tail Crop: Radish Photo Courtesy Kitchen Garden International



Mr. Big Crop: Pea Photo courtesy Al American Selection



Bon Bon Crop: Squash Photo courtesy All American Selection



Crop: Pepper
Photo courtesy All American
Selection

Shhh, don't tell. This is a trick question!



"P" variety is not actually 'P' at all, but rather is a French Breakfast type radish variety called Fire 'n Ice. This radish grew into a P shape because the radish root bumped into an obstacle in the soil such as a rock, and continued to grow around it.

Photo provided



Here is an image of a normal bunch of Fire 'n Ice radishes.

What's in a name?

Baby Bear

Baby Bear is a unique size and shape, and is often called "the perfect mini pumpkin" by growers. Deep orange, 1 1/2-2 1/2-lb. fruits are about half the size of a normal pie pumpkin. With slender, sturdy, easy-to-grip handles, they are very appealing to children. The **semi-hulless** seeds are good for roasted snacks. High yield. 1993 All-America Selections winner.

Black Pearl (bush bean)

This is a black-seeded edamame soybean. The plants grow to 2 1/2– to 3-foot tall and bear 1/4-inch, black, pearl-sized seeds. **Days To Maturity**: 85-85

Black Pearl (cherry tomato)

This is an early season cherry tomato on **indeterminate** vines bear 1 1/2-inch, purplish-black fruit, though in this picture they look more reddish. Days To Maturity: 65-65

Black Pearl (pepper)

Ornamental hot pepper, Nearly black-leaved, 14- to 18-inch-tall by 12- to 16-inch wide plants bear rounded, 3/4-inch fruit that matures from black to deep red. 2006 All-America Selection.

Bon Bon

Bonbon has the classic appearance of the perfect buttercup squash: deep green, smooth skin, and a prominent grey "button" at the base. 2005 All-America Selections winner. Why do you think this is named bon bon? What is a bon bon?

Bright Lights

Multicolor chard -

Stems of many colors including gold, pink, orange, purple, red, and white ... with bright and pastel variations. The taste is milder than ordinary chard. 1998 All-America Selections winner.

Carmen

'Carmen' is a sweet pepper with an unusual shape. Most gardeners think of a bell shape when "sweet" peppers are mentioned. 'Carmen' is an Italian bull's horn type which refers to its elongated shape, about 6 inches long. Carmen has a lovely sweet taste for salads and roasting, especially when partially or fully red-ripe. 2006 All-America Selections winner.

Mr. Big

You probably wouldn't guess that a garden shelling pea would be named Mr. Big! But if you saw this plant in real life, you would see where it got its name. Mr. Big is a very small vine (only about 16 inches), but they load up with huge pods. Easy to pick and shell! 2000 All American Selection winner.

'P'

This is actually 'Fire 'n Ice', a French breakfast type of radish. Can anyone guess why it's shaped like a 'p'? The meristem, or growing tip of the root grows down. This one hit an obstacle, such as a rock, and continued growing around it! Usually gardeners prepare their soil for root crops by digging a deep bed and removing such obstructions. If you are lucky enough to have a garden, consider growing an experimental bed of carrots and radishes with some obstacles carefully placed, and see what comes!

Rat-Tail

This is an unusual radish!! Usually we eat the root of radishes, but with Rattail, the edible part is the seed pod pictured here. Rattail radish plant get really big - 4- to 5-foot tall, with 3- to 6-inch, green, mildly pungent pods. Pick pods when they are the diameter of a pencil and eat like green beans!

Red Giant



Red Giant is a Japanese heirloom mustard green. The image you saw is of young red giant plants. Red Giant becomes much redder and much larger with maturity (as shown here; a single plant can grow up to 6 pounds!

Photo courtesy Mississippi State University

Red Meat

This 2-4" round radish is very sweet and tasty and becoming very popular in the U.S. This excellent Chinese radish is also known as Beauty Heart and Watermelon Radish because of its dark pink flesh.

Sunshine

Stunning, scarlet fruit.

Beautifully tender flesh is smooth, sweet, and bright orange for baking, mashing, and pies.

2004 All American Selection Winner.

Yellow Oxheart

If you've ever seen a real ox heart, you know where this



tomato gets its name! This is a standard heirloom tomato, on indeterminate vines that bear small-cored, bright yellow, oxheart-shaped fruit. One Yellow Oxheart tomato can weigh up to 1 pound!

Leonardo da Vinci's Drawing of the Ox Hear



Catalog Writers

Overview

Students will view a selection of "variety cards" – pictures of vegetable varieties, and choose one to write a description of and name, with the aim of capturing customers' attention! Students are encouraged to use their imaginations as well as anything they already know about how things grow to accomplish the task.

Standards

(NYS): Science: 4.1, ELA: 2

Objectives

To have fun and get acquainted with the interesting and unusual variety in vegetables through creative writing.

Time

15-30 minutes (20 minutes prep)

Materials

- 2 copies of the same catalog
- glue stick
- scissors
- 4X6 unlined index cards



Instructions

- 1. With two identical catalogues, find ten (or more, depending on how many are in your group; it's nice to have a few extra to allow for choice) interesting vegetable varieties. From one catalogue, snip only the photo, and from the other, cut the same image, including the name and description.
- 2. Glue each picture onto an index card, keeping the varieties with the names and descriptions in a separate pile. Reserve these for later.
- 3. Spread the nameless variety cards around on a table for students to examine. Working independently or in pairs, students will pick a variety card they like.
- 4. Students will name the variety and write a description for it. This is a creative writing exercise so there is no wrong answer! Encourage them to use colorful language, and to include specifics.
- 5. When everyone has had a chance to do this, have volunteers share their variety, it's name and description.
- 6. If there is time, ask students to compare their descriptions with the catalogue descriptions, using the reserved set of cards. Are they surprised? Based on the different descriptions, ask, "Which would you rather grow?"

Taking it Further

K-2: ask your students to generate descriptive words that come to mind from viewing each picture, rather than writing a complete description. Provide scribe services as needed.



Plants In Our Daily Lives

Overview

Students will examine their surroundings for items and determine whether each item was derived from plants in some way.

Standards

(NYS): Science: 4.6, 4.7

Objectives

To discover the role plants play in our daily lives

Time

15 minutes

Materials

- paper
- pencil/pen
- large newsprint (if graphing)
- markers (if graphing)

Instructions

- 1. Working in pairs, ask students to write down 30 items in their immediate surroundings (this can include clothing and anything in the room, or if outside, whatever they can see.)
- 2. Have students create two columns next to their list, one entitled "Plants", and one entitled, "No Plants."
- 3. Ask students to assign each item to one of the columns; if plants or any plant part was used in the manufacture or use of any of the items, a check goes in the "Plants" column. If not, then students check "No plants."
- 4. **Optional:** Tally group totals for both columns and create a bar graph with the whole group's data
- 5. Come together as a group. What did students find? Which column had more checks? Were the results surprising? Why or why not?
- 6. Were there any items that students could not figure out? Were there any items that were put into both columns by different students? Discuss, and determine as a group to which column these items belong. If the group is unsure, ask for a volunteer to research this, and report back to the group next meeting.



Plants in our Daily Lives



Item	Plants	No Plants
	Check this column if item comes from plants	Check this item if item does not come from plants
example: wooden chair	Yes	
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		
11.		
12.		
13.		
14.		
15.		
16.		
17.		
18.		
19.		
20.		
21.		
22.		
23.		
24.		
25.		
26.		
27.		
28.		
29.		
30.		
TOTAL		



Veggie Vote

Overview

Students open an envelope with profiles of three different varieties of a particular crop, (either lettuce or beets). They are given a scenario that requires them to select only one variety of the crop to grow. Based on the information they have for each of the candidates, which "candidate" will they vote for and why? Can students defend their choice well, and convince others to also "vote" for their candidate?

Standards

NYS Science 1, 4.1, 4.2, 4.3, ELA 1, 3 Social Studies 5.3, 5.4

Objectives

This activity gives participants a chance to become familiar with some of the varietal characteristics that gardeners consider when selecting what to grow, and allows participants to determine what qualities are most important for their own purposes.

Time

15-30 minutes

Materials

- One 9x12" envelope with three beet variety profiles (Warrior, Chioggia, Golden)
- One 9x12" envelope lettuce with three lettuce variety profiles (Black Seeded Simpson, Freckles, Red Sails)
- Blank paper
- Pencils/pens

Instructions

Set out envelopes along with the following scenario:

Background: Your school has just received a grant to start a small vegetable garden. You have to make good use of your space and growing season, and only have room for one variety of each crop. You want to convince the others in your school garden group to vote for your variety "candidate."

- 1. Divide the group into pairs or groups of three.
- 2. Instruct students to choose one envelope, and read through the profiles of each "candidate." Each profile includes a photo, description, and gardener reviews
- 3. Using the photo, descriptions and reviews available and their imagination groups should pick a "candidate" to support.
- 4. Each group will then create a one paragraph campaign to convince your school garden committee that this is the best variety to grow. Be persuasive!
- 5. Write the name of your winner and your "campaign speech" on a piece of paper.
- 6. Once you and the other groups are done, take turns giving your campaign speech to the whole group. If you chose different candidates, which speech is more persuasive? Take a vote and find out!

Taking it Further

Follow up with a discussion about current political candidates and popular strategies for "getting the vote." Did you use some of these strategies to campaign for your variety?







Chioggia Beets

Description

Early, heirloom, flattish-round, red beet. Sometimes called the Candystripe for the concentric pink and white rings in its root. Ornamental plants.

Days To Maturity: 45-55

Reviewer: from VA

Beets are sometimes a challenge in my garden's clay soil, but I liked this variety; I thought it produced bigger, earlier roots than 'Early Wonder Tall Top'. Doesn't bleed, which is a great advantage for cooking, but still very tasty, delicate beet flavor. Not super-productive (about 3 pounds from 10 row feet), but I would grow it again.

Reviewer: from BC

Really great to look at, but picky to grow and not flavourful at all. I'll skip these this year. Probably a great variety for kids to grow due to the novelty.

Reviewer: from OR

They are wonderful, but darn it, they want to be babied, and I just don't have time for that nonsense. :-)

Reviewer: from CA

Easy to grow, but not worth the trouble. Very bland. Tasted more like turnips.

Reviewer: from PA

These have been the most trouble free beets I have grown to date. They produce sweet beets that are very good. They grew very quickly as well. Not overpoweringly sweet, which some may not like, but they are definitely sweet. They are a pretty target/ringed beet when sliced crossways.





Description

Hybrid. Dark-red, globe-shaped, smooth-textured, uniform, tender roots develop quickly and hold quality. Strong tops tinged with red, especially in cold weather.

Days To Maturity: 57

Reviewer: from Wayne County, NY Very good variety. I have planted this variety for the last 5 years with no issues.

Reviewer: from NE

Where beets didn't do well, these made a nice crop. Taste was excellent, and a really tender texture. This is an outstanding variety. I had some old seed (at least 4 years old) that I found this spring. I planted a few as a test, great germination, and beets are growing strong and healthy. Great variety, my vote for best beet by more than a mile!!!





Description

Orange-yellow root with yellow-stemmed, green tops used in salads when small.

Days To Maturity: 55

Reviewer: from GA

I find the golden types to be less vigorous than the red types.

Reviewer: from Monroe County, NY Attractive, tasty, not terribly big roots.

Black Seeded Simpson Lettuce





Description

Looseleaf type. Heirloom. Lightgreen, crumpled leaves can be picked very young and are never bitter. Stands hot weather and drought.

Days To Maturity: 42-46

Reviewer: from Suffolk County, NY

Just the best lettuce ever! Grow it in windowbox type containers and harvest leaves as needed, overwinter in a sunny window for year round harvest. In the heat of summer (90+ degrees) move to an afternoon shade area and it won't bolt or go bitter.

Reviewer: from IL

This is an excellent traditional green lettuce. Produced well, and easy to grow. I always picked it young, and it made a terrific salad.

Reviewer: from Suffolk County, NY

Reminds me of my childhood. It's easy and pretty, especially with a sweet red salad dressing.





Description

Cos (romaine) type. 8- to 10-inch heads with semi-savoyed, bright-green leaves covered with dark-red speckles. Meaty leaves are slow to turn bitter. Pick baby leaves at 28 days.

Days To Maturity: 28-55

Reviewer: from VT

Well described above. Pretty. If allowed to go to seed, it volunteers nicely on it's own = good for low effort gardening.

Reviewer: from PA

Very pretty Romaine type lettuce with the nice crunch you expect from a Romaine. The speckles make this one very special to look at. Flavor is laid back, as many lettuces are. In other words it is a mellow, slightly sweet flavor with great crunch and a beautiful appearance on the plate. Easy to grow, and as mentioned by another reviewer the slugs (and I have loads of slugs) do not seem terribly interested in it.

Reviewer: from IN

I love beautiful food and this lettuce is one of my favorites. It is easy to grow and tastes great. I sow it somewhat thickly and thin for leafy greens early in the season, making room for the heads to grow. Tolerates the heat well with protection from row covers. I will continue to grow this Vitamin-B rich romaine.

Reviewer: from Hamilton County, NY Soft and Mellow taste. Slugs avoided. Good yield in Zone 3-4. Second planting also did well.

Reviewer: from Cattaraugus County, NY very nice romaine.70 days to maturity in my area. good late season lettuce.





Description

Looseleaf type. Very open plants with deepburgundy-red over light-green leaves that are slow to become bitter. Fast-growing, heattolerants, and relatively slow to bolt. Pick for baby leaves at 29 days. Grows well indoors under lights. All America Selection 1985.

Days To Maturity: 29-55

Reviewer: from CT

I find that this grows very easily in early spring and all through the summer. I can plant this in the heat of July and it produces fantastically great. Great soft sweet lettuce.

Reviewer: from CA

I have had more problems with this lettuce than any other. Possibly because I gave it so many, many tries. It gets rave reviews, but it has never lived up to my most modest expectations. Red Sails has a higher juvenile mortality rate than the other lettuces, easily blown flat by rain or wind. I haven't got to the hoop-tunnel stage yet, and don't plan to, so Red Sails is out. I prefer hardier types of leaf lettuce. Also, it is not nearly as bolt-resistance as many of the claims would have it. Big thumbs down.

Reviewer: from NC

One of our favorites. Excellent yield, slow to bolt. Adds color and taste to salads. Seed is cheap at our local bulk seed dealer.

Reviewer: from Erie County, NY

It's very ornamental & that's why I grow it. Colorful in a salad.

Reviewer: from CA

My favorite lettuce. I plant in succession all year long. We use it in salads and feed it to our

tortoises. They love it too.



Interview Skill Building

Overview

Students will learn interviewing skills in four parts; by 1. practice interviewing and being interviewed by a partner, 2. review 'Postive Interviewing Skills', 3. observe both effective and ineffective techniques modeled by an interview with the group leader, and 4. incorporate new skills into another practice interview.

Standards

(NYS): Science: 1, ELA: 3, 4, Social Studies 5.3

Objectives

To practice and become familiar with positive interviewing skills

Time

20 minutes – 1.5 hours

Materials

- pencils
- Practice Interview Form 1 per student
- Rate this Variety Form— 2 per student
- 3 steps to a Great Interview

Instructions

Part 1: Interview partners



- 1. Review and modify the **Practice Interview Form**. This form has sample interview questions about a band or musical group, however it may be easily modified to reflect your students' interests.
- 2. Divide the group into interviewing pairs, and provide one **Practice Interview Form** and a pencil to each student.
- 3. Instruct students to interview their partner and record the responses on the form. Students should use the back of the form to ask follow up questions of their own, and record the answers.
- 4. Instruct students to switch after first partner has completed the interview.
- 5. After all students have had a chance to interview and be interviewed, come together as a group, and ask for volunteers to share what the experience was like. Ask questions such as: How did it feel to be interviewed? To interview someone else? What did you like about it? What was challenging? How do you think it might be different interviewing an adult/someone you don't know?

Part 2: Review Positive Interviewing Skills

- 1. Invite youth to take turns reading each of the skills under '3 steps to a great interview', including Positive Interviewing Skills, Gather Quality Responses, and End Positively sections.
- 2. Ask whether these skills were observed in their own interviews. Which skills were used and which were not?
- 3. How did it feel to the interviewee when a particular skill was used? Not used?

Part 3: Interview Demonstration

The purpose of this exercise is to demonstrate how interviewing styles and techniques affect the quality of the interview, and to become familiar with potential obstacles and ways to overcome these obstacles in quality data collection.

- 1. Ask for a pair of volunteers to interview you in front of the group, using the Rate this Variety Form. Another adult may help by keeping the group focused on observing the interview. Be sure you have a vegetable variety name in mind (you can make one up), and the ratings can be fictional.
- 2. As the interviewee, you will give responses to the questions which cause the student to probe to get the answer needed to complete the form. For example, "How do you rate this variety of broccoli on taste? You might say, "Oh, it's pretty good." This forces the interviewer to ask a follow up question, such as "So, on a scale from 1-5, would that be a one, two, three, four, or five?" Also, ask plenty of questions that may come up in the actual gardener interviews. Do not correct any mistakes or poor interviewing techniques at this time.
- 3. Once the interview concludes, thank and applaud the volunteer interviewer. Ask the group to comment on positive interviewing techniques they noticed. Expand on their comments.
- 4. Next, ask the audience and the interviewer if they noticed anything that seemed awkward or difficult during the interview. Were questions asked in a way that preserved the quality of the data collected? Were responses gathered for all questions? Were all of the interviewee's questions answered? Did the interviewer pose any questions of his/her own? If not, does the audience have any ideas for follow-up questions that could be asked?

Part 4: Interview partners - putting new skills to work!

- 1. Divide group into interviewing pairs again this time with different partners. Distribute the actual Rate this Variety forms to each student.
- 2. Students will practice interviewing each other as they did in the first round, but this time they will pretend to be gardeners rating a vegetable variety.
- 3. Assign a vegetable variety, along with crop name, to each student, and have seed catalogs available for students to look up their variety. The ratings the "gardener" interviewee provides may be of their choosing, but they should be encouraged to appropriately challenge their interviewer to collect quality data.
- 4. During this exercise, leader(s) should observe the interviews in progress, making notes of positive skills being employed, as well as areas that may still need clarification.
- 5. Finally, come together as a group and comment on any improvements that took place in these interviews. Clarify any questions, and thank the youth for their active participation.



Great Interviews in 3 Steps

1. Practice Positive Interviewing Skills

- Smile and introduce yourself.
- Maintain good eye contact and speak clearly.
- Use good listening skills. When the person you are interviewing is talking, pay attention to what that person is saying.
- Read questions exactly as they are written.
- Do not skip any questions.
- Do not fill in missed questions yourself. If questions are accidentally skipped, leave them blank.

2. Gather Quality Responses

- Your voice is an important communication tool; use it to help the person you are interviewing understand the questions and responses without suggesting one choice over another.
- Repeat question and response options if the person does not give an answer among those options or gives more than one answer.
- Don't guess which category is closest to an unclear response. Repeat the response options (for example; one, two, three, four, or five stars) and ask the person to choose by saying something like, "So would that be one, two, three, four, or five stars?"
- Use a probe question, such as: "What did you mean by that answer?" or "Could you be more specific about that?" if you find the person's response confusing or off topic. If the person is silent try "Anything Else?"
- If the person you are interviewing asks for an interpretation, say something like, "Whatever that means to you," or "I'm sorry, I really don't know the answer to that," or "Let me repeat the question for you."
- When recording an open-ended question without specific response options, read the words back to the person. This gives the person a chance to make sure the response accurately reflects his or her opinion.
- If you have questions or concerns, ask an adult supervisor for help.

3. End Positively

- Thank the gardener for his/her time.
- Fill out the Gardener Card and give to the gardener.
- Ask the gardener if he or she has any questions for you.

PRACTICE INTERVIEW FORM: RATE THIS!

READ THE FOLLOWING QUESTIONS TO YOUR PARTNER. THE CAPS ARE FOR YOUR USE; DO NOT READ THESE TO YOUR PARTNER.

Let's begin rating.				
Please tell me one [band or musical group you have listened to]. ENTER NAME	CHECK SPELLING WITH PARTNER			
What [kind of music does this band/musician play]? ENTER MUSIC TYPE				
On a scale of one to five, with five being the best: 1. How would you rate [this band] overall?	1 2 3 4 5 \$\frac{1}{2} \frac{1}{2} 1			
2. How would you rate [this band] on [rhythm]?				
3. How would you rate [this band] on [vocals]?				
4. How would you rate [this band] on [danceability]?	***			
5. How would you rate [this band] on [energy]?	***			
6. How would you rate [this band] on [instrumentals]?				
7. How would you rate [this band] on [solos]?				
8. What additional thoughts would you like to share about	[this band]?			
Interviewee's Name Inte	rviewer's Name			



Youth Handbook

Wanted:



Vegetable Gardeners

A citizen science approach to preserving biodiversity and connecting with community.







Youth Handbook Outline

Why the Vegetable Varieties Investigation?

You can play an important part in helping support ecosystem diversity in vegetable gardens. Through the Vegetable Varieties Investigation, you will join a team of people from all over North America gathering information for the Vegetable Varieties for Gardeners online library.

By growing a wide range of vegetable varieties, gardeners have and continue to play a critical role in preserving unique genetic material of thousands of vegetable varieties that may otherwise be extinct. Tapping gardener knowledge will help us catalog and preserve our human and plant history, while supporting the promotion of biodiversity. Working together, we can gain new insight into the performance of vegetable varieties in different regions and conditions, while creating a valuable resource for scientists, gardeners, and future generations.

What is the Vegetable Varieties Investigation?

Vegetable Varieties Investigation is an opinion poll. You interview gardeners, and find out what they really think of the vegetables they have grown. Once you identify a gardener to interview, you will ask a few questions about his/her garden plot and the vegetable varieties s/he grows. Then you will find out how s/he would rate one or more of those varieties. Most importantly, you will share your research with others through our online library.

What is a vegetable variety?

A vegetable variety is a kind or form of a given species or crop. For example, Jersey Knight and Martha Washington are varieties of asparagus, and Sungold and Brandywine are varieties of tomato.

Many gardeners pay careful attention to the varieties of vegetables they grow because of successes or difficulties they've had in the past with specific varieties or personal preference for a particular taste or appearance.

You v	will need:
□ G	Gardener Profile Forms
☐ R	ate this Variety Forms
□ G	Great Interview Steps
□ Fi	rost-Free Season Map
□ N	Aistaken Identities
□ P	encils
□ C	lipboards
□ A	ccess to home or community vegetable gardeners
□ A	ccess to a computer connected to the internet



page.

Introduction to Gardeners

Use this page to help you introduce yourself to the gardener.

Hello. We are _			from	
()	your names)	(your group/scho	from ool)	
We are working about what you			vegetable varieties.	We want to find out
Would you be w vegetable variet	=		bout your garden an	d share your opinions of
Varieties for Ga	will share this ir deners website	, so gardeners can	•	through the Vegetable er and so we can create get started!
	If you'd like to		<u>~</u> .	please visit the Vegeta- ener flyer.) Thanks again
If gardener war	nts to know mo	re about this proje	ct, share the inform	ational flyer on the next



More about Vegetable Varieties for Gardeners (VVfG)

What varieties will grow best in my garden? No doubt gardeners have been asking other gardeners this question for centuries. Today's gardeners ask the same question. But now there's a way for gardeners to share their knowledge with a much wider community – online.

Gardeners visit the Vegetable Varieties for Gardeners website and report what varieties perform well - and not so well - in their gardens. Other gardeners visit to view the variety ratings and read the reviews to decide which might work well in their own gardens.

The Vegetable Varieties for Gardeners citizen science project also provides an opportunity for researchers to involve knowledgeable and motivated citizens in meaningful scientific research. Research on the performance of vegetable varieties is often limited to commercial production for many reasons. Home and community gardens may be overlooked, in part, because visiting thousands of home gardens to collect data would be an overwhelming task.

Asking gardeners to partner with researchers by collecting and sharing their own observations via the web could prove to be a winning combination for all. With a multitude of gardener observations at their finger tips, researchers can gain new insight into the performance of vegetable varieties under a wide range of conditions and practices, and ultimately provide more insight into which varieties perform best. At the same time, gardeners can get advice from a larger community of gardeners to help decide which varieties to try in their own garden.

Gardeners - young, old, beginners, experts - join the research team today!

For more on how VVfG works, please visit:

http://blogs.cornell.edu/garden/get-activities/signature-projects/veg-varieties/

To see the online tool, create your own garden profile, read reviews, and add your own reviews, please visit:

http://vegvariety.cce.cornell.edu/



Terms to Know

Biodiversity: Biodiversity or biological diversity is the variation of life forms within a given ecosystem, category, or for the entire Earth. It is generally accepted that increasing biodiversity is favorable and promotes health and balance in the natural world.

Citizen Science: A project or ongoing program that engages volunteer community members over a large geographic area in addressing specific research questions. It is a partnership between the public and professional scientists to address a real world issue such as understanding and conserving biological diversity in food crops.

Community garden: A piece of land divided into small garden plots and gardened by members of a community. For specific examples see the American Community Gardening Association http://www.communitygarden.org/

Ease/reliability: If a variety is dependable, easy to grow, not overly vulnerable to pests or diseases, and one that you might recommend to a new gardener, it rates high in ease/reliability. If a crop is relatively difficult to grow or unpredictable, and you would hesitate to recommend it to a new gardener, it rates low in ease/reliability.

Frost-Free Zone: (Also called frost-free season, or growing season) The number of days between the average date of last frost in spring and average date of first frost in fall. Knowing the frost-free zone for one's particular area helps a gardener select crops and varieties that will be most suited to the area's climate .

Open-ended question: Encourage the respondent to provide a full, meaningful answer using his/her own knowledge and/or feelings. It is the opposite of a closed-ended question, which focuses on a short or single-word answer such as yes or no or some predefined category.

Open-ended question typically begin with words such as "Why" and "How", or phrases such as "Tell me about..."

Probe Question: A follow-up question used to clarify a response or gather additional information.

Soil type: Describes the physical composition of the soil, such as clayey, sandy, or loamy.

Vegetable crop: A broad descriptive category for vegetables, such as tomato or bean

Vegetable type: A subcategory of vegetable crop, type is a kind of crop, such as a cherry tomato or bush bean.

Vegetable variety: The most specific category used to identify a vegetable. Sungold cherry tomato and Italian Rose bush bean are examples of vegetable varieties. Many gardeners pay careful attention to the names of the vegetable varieties they grow because of successes or difficulties they've had in the past or personal preference for a particular taste or appearance.

Vegetable Varieties for Gardeners website: An online library of gardeners' ratings and reviews of over 5,000 vegetable and herb varieties that aims to help gardeners and researchers determine the success of specific vegetable varieties in relation to particular growing conditions by gathering gardeners' opinions.

Vegetable Varieties Investigation (Vvi): A citizen science project partnering youth with gardeners to learn from each other and contribute vegetable varieties ratings and reviews to the Vegetable Varieties for Gardeners website.

Yield: As it refers to crop yield, the average amount of harvest produced by a given vegetable variety.



Great Interviews in 3 Steps

1. Practice Positive Interviewing Skills

- Smile and introduce yourself.
- Maintain good eye contact and speak clearly.
- Use good listening skills. When the person you are interviewing is talking, pay attention to what that person is saying.
- Read questions exactly as they are written.
- Do not skip any questions.
- Do not fill in missed questions yourself. If questions are accidentally skipped, leave them blank.

2. Gather Quality Responses

- Your voice is an important communication tool; use it to help the person you are interviewing understand the questions and responses without suggesting one choice over another.
- Repeat question and response options if the person does not give an answer among those options or gives more than one answer.
- Don't guess which category is closest to an unclear response. Repeat the response options (for example; one, two, three, four, or five stars) and ask the person to choose by saying something like, "So would that be one, two, three, four, or five stars?"
- Use a probe question, such as: "What did you mean by that answer?" or "Could you be more specific about that?" if you find the person's response confusing or off topic. If the person is silent try "Anything Else?"
- If the person you are interviewing asks for an interpretation, say something like, "Whatever that means to you," or "I'm sorry, I really don't know the answer to that," or "Let me repeat the question for you."
- When recording an open-ended question without specific response options, read the words back to the person. This gives the person a chance to make sure the response accurately reflects his or her opinion.
- If you have questions or concerns, ask an adult supervisor for help.

3. End Positively

- Thank the gardener for his/her time.
- Fill out the Gardener Card and give to the gardener.
- Ask the gardener if he or she has any questions for you.



Savoy

Mistaken Identities

These are types not varieties. If your gardener gives you one of these types ask them to provide a specific variety name. If the gardener can not be more specific, ask the gardener to rate another vegetable. **Example:** Snow pea describes the type of pea, whereas Oregon Giant is one variety of snow pea.

Bean Types	Pepper Types	Tomato Types
Bush	Anaheim	Currant
Dry	Ancho	Cherry
Dutch Pole	Asian	Grape
Edamame	Banana	Greenhouse
Fava	Bedding	Paste
Flageolet	Bell	Pear
French Filet	Cayenne	Plum
French Haricot Vert	Cherry	Roma
Garbanzo	Chili	San marzano
German Pole	Green	Standard
Green	Habanero	
Half-Runner	Hot	Melon Types
Italian	Hungarian	Canary
Lima	Italian	Casaba
Pole	Jalapeno	Charantais
Purple	Mulato	Crenshaw
Purple Pole	Pablano	French
Romano	Pepperoncini	Galia
Runner	Pimento	Honeydew
Shell	Red	Tropical
Snap	Relleno	Watermelon
Soybean	RistraRocket	
String	Serrano	Lettuce Types
Tepary	Sweet	Bibb
Wax	Wax	Boston
Yellow	Yellow	Butterhead
		Cos
Cabbage Types	Pea Types	Crisphead
Blue	Cow	French
Chinese	Shelling	Iceberg
Green	Snap	Looseleaf
Red	Snow	Romaine
C		



Templates and Forms

Youth Permission Form
Educator Permission Form
Gardener Permission Form
Sample Letter to Gardener
Sample Agenda
Sign-in Sheets
Supplies Checklist
Garden Profile
Gardener Card
Nametags
Approval Checklist for Leaders
NY Freeze Free Season
Rate This Variety



Youth Permission Form

Dear Parent or Guardian,

We would like to invite your child to participate in a Cornell Garden-Based Learning Program, called Vvi (Vegetable varieties investigation).

During the program, Cornell staff may be visiting program sites. They may observe youth and take notes, photographs, and video recordings to document program activities. They may also ask youth to discuss their ideas and opinions about our program. To make our program a success, we need your permission for your child/children to participate.

Please check off the following items if you accept them.
☐ I voluntarily agree to allow my son/daughter/or child,, for whom I am the guardian, to participate in Cornell's Vvi activities.
☐ I voluntarily agree to allow the youth named above to be observed, photographed, audio taped and/or video taped by program staff.
☐ I grant permission for the notes, photographs, audio recordings and/or video images to be used in the Vvi website and in program materials.
☐ I understand that the name of the youth named above will not be used in any of the documents.
Name of child
Signature of Parent / Guardian
 Date
Thank you for your assistance and cooperation. Please contact us if you have any questions or comments about this form.
Cornell Garden-Based Learning , Department of Horticulture vegvariety@cornell.edu
blogs.cornell.edu/garden/get-activities/signature-projects/vvi/
vegvariety.cce.cornell.edu/



vegvariety.cce.cornell.edu/

Educator Permission Form

Thank you for participating in Vvi. During the program, staff affiliated with Cornell University or the Vvi host organization may be visiting program sites. You may be observed at various times during the course of the project and notes, photographs, and video recordings may be taken to document program activities. You may also be asked to complete a brief written evaluation of the program, or to talk with our staff about your experience with the program. To make our program a success, we need your permission.

Please check off the following items if you accept them.
☐ I voluntarily agree to be observed, photographed, audio taped and/or video taped by Cornell staff.
☐ I grant permission for the notes, photographs, audio recordings and/or video images to be used in Vvi and Vegetable Varieties for Gardeners websites and in program materials.
Name
Signature
Date
Thank you for your assistance and cooperation. Please contact us if you have any questions or comments about this form.
Cornell Garden-Based Learning , Department of Horticulture vegvariety@cornell.edu
blogs.cornell.edu/garden/get-activities/signature-projects/vvi/



Gardener Permission Form

I,, am aware that the information I provide to youth may
be featured on the Vvi and Cornell Vegetable Varieties for Gardeners websites.
Please check the following items if you accept them:
☐ Vvi and Vegetable Varieties for Gardeners may use my name on their website and in their program materials.
☐ Vvi and Vegetable Varieties for Gardeners may post information about me and my garden on their website and in their program materials.
☐ Vvi and Vegetable Varieties for Gardeners may post a picture of my garden on their website and in their program materials.
☐ Vvi and Vegetable Varieties for Gardeners may post a picture of me and/or an audio recording of my voice on their website and in their program materials.
Please sign and date below.
Signature
Date
Thank you for your assistance and cooperation. Please contact us if you have any questions or comments about this form.
Cornell Garden-Based Learning , Department of Horticulture vegvariety@cornell.edu
blogs.cornell.edu/garden/get-activities/signature-projects/vvi/



Sample Letter to Gardener

To insert your own organization and Vvi program information, please visit http://www.gardening.cornell.edu/vvi/LetterToGardener25.doc for a customizable Word document template.

August 8, 2011

Dear Gardener:

Thank you for agreeing to talk with youth about your garden! Gardeners who have participated in previous Vvi (Vegetable varieties investigation) events with youth have found it to be rewarding and fun.

Youth participants from [insert name of group here] will be asking you a few basic questions about your garden and most importantly your opinions about specific vegetable varieties you have grown. It will be helpful for you to bring the names or seed packets of several vegetable varieties that you have grown.

Along with collecting knowledge from gardeners like you, they will learn about positive interviewing skills, biodiversity, and collecting quality data. Vvi is a project of Cornell University's Garden-Based Learning program, and is a companion to Cornell's Vegetable Varieties for Gardeners web-based project.

Feel free to browse these web sites to find out more:

Vegetable Varieties for Gardeners: http://vegvariety.cce.cornell.edu

Vegetable varieties investigation: http://blogs.cornell.edu/garden/get-activities/signature-

projects/vvi/

We look forward to seeing you at [insert, location, time, any other details here].

Thank you.

[Insert contact information here]



Sample Agenda

To insert your own organization and Vvi program information, please visit http://www.gardening.cornell.edu/vvi/SampleAgenda25.doc for a customizable Word document template.

Day 1: Youth O	rientation	14	amian Dan Charle List
10 min	Introduce Vvi.	Int	erview Day Check List
5 min	Introduce biodiversity.		Youth are in pairs.
20 min	Complete variety activities.		
20 min	Browse Vvi website.		Youth pairs are each matched with a gardener.
Day 2: Youth O	rientation		
10 min	Review biodiversity, and how Vvi supports biodi		Youth have signed the sign-in sheet.
F main	versity.		
5 min	Introduce positive interview skills.		Each interviewing team has a
10 min	Interview activity.		complete binder, name tag and
5 min	Divide the group into pairs; choose and record		pencil.
	team names.	_	
15 min	Distribute binders, plan youth roles for carrying		Gardeners are greeted, have signed in, have name tags, and
	out interviews.		have completed their permis-
10 min	Practice actual Vvi interview with each other.		sion slips.

Day 3: Interview Day

30 min Pizza dinner.

1 hour Youth interview gardeners.

10 min Give **Gardener Cards** to gardeners, verify forms are correctly filled out.

10 min Wrap up/ Pack up.

5 min Remind youth they will enter this data online!

Day 4: Report Data Online

15 min Informal feedback session from youth on interviews.

40 min Submit data online.

Day 5: Evaluation/Follow up

10 min Write thank you notes to gardeners.

30 min Complete youth and leader evaluation forms and submit.20 min Follow up on related topics of interest using online resources.



Gardener Sign-in Sheet

Your contact information will be used for follow up purposes only, and will not be shared with anyone

Gardener Name	Phone	Email	Community Gardener? Yes/No



Youth Sign-in Sheet

Your contact information will be used for follow up purposes only, and will not be shared with anyone

Youth Name	Team Name	Email



Supplies Checklist

To insert your own organization and Vvi program information, please visit http://www.gardening.cornell.edu/vvi/SuppliesChecklist25.doc for a customizable Word document template.

Supplies	Get	Assemble	Pack	Steward
5 Interviewer Binders –stuffed (see table below)				
Youth Sign-in sheet				
10 lanyards for name badges				
10 plastic name badges				
10 youth name tags				
10 youth pencils				
Youth comments/evaluation				
Gardener Sign-in sheet				
10 gardener name tags				
10 Permission slips –Gardener				
10 Gardener gift bags (seeds, bookmarks, thank you, etc.)				
Digital camera #1				
Digital camera #2				
Tape recorder				
Folding table				
Folding table				
Pens				
Clipboards				
Sharpies				
Scissors				
Balloons/string				



Supplies Checklist (continued)

To insert your own organization and Vvi program information, please visit http://www.gardening.cornell.edu/vvi/SuppliesChecklist25.doc for a customizable Word document template.

Supplies	Get	Assemble	Pack	Steward
Hand sanitizer				
Paper plates				
Paper cups				
Forks, knives				
Napkins				
Paper towels				
Toilet paper (1 roll)				
Trash bags				
Table cloths (3)				
Pizza				
Salad, large bowl, tongs, dressing				
Apples, large bowl				
Nuts, bowl				
Raisin Boxes, basket				
Cookies, platter				
Cider (1gallon)				
Water bottles				
Cooler - large				
Cooler - small				



Supplies Checklist (continued)

To insert your own organization and Vvi program information, please visit http://www.gardening.cornell.edu/vvi/SuppliesChecklist25.doc for a customizable Word document template.

Supplies	Get	Assemble	Pack	Steward
Variety Rating Activity Instructions				
3-4 varieties of a crop such as blueberries or carrots				
Container for each variety				
Copies of Rate this Variety form				
Pencils				
Digging through seed catalogue instructions				
Seed catalogs				
Produce Sorting Activity Instructions				
Local produce: 2+ varieties per crop				
Basket for sorting				
Paring Knife				
Cutting Board				
Youth Handbooks				
Youth Handbooks				



Garden Profile

Use this form to record gardener responses. You must first set up a garden profile for each gardener you interview before you are able to enter any reviews of vegetable varieties. Input this data at vegvariety.cce.cornell.edu

What would you like us to call you? (Mr./Mrs./Ms. and your first or last name, or simply your first name)	
What would you like to appear next to your reviews on the Vegetable Varieties for Gardeners website? This will be your display or screen name. This name will be how others identify you online. It can be the name you just gave us or an alternative name.	
Do you have an email address? IF YES: ENTER HERE IF NO: CREATE AN ARTIFICIAL EMAIL (see next page)	
In what state/province is your garden?	
In what county is your garden?	
In what zip code is your garden?	
What is your garden's frost free season? IF GARDENER IS NOT SURE, REFER TO FROST-FREE MAP FOR YOUR GARDENER'S STATE.	 ☐ Fewer than 103 days ☐ 103-123 ☐ 123-143 ☐ 143-163 ☐ 163-183 ☐ 183-203 ☐ More than 203
What is your garden's soil texture?	☐ Clay☐ Loam☐ Sand☐ Not sure
What is your garden's size (in square feet)?	☐ Small (less than 400)☐ Medium (400-1600)☐ Large (more than 1600)



Garden Profile (page 2)

What is your gardens sun exposure?	Less than 6 hours/ day 6-8 hours/day More than 8 hours/ day
What is your level of gardening experience?	Novice Intermediate Experienced
Cornell University values diversity and is committed to welcoming all individuals to their programs. To help Cornell evaluate how effective they are at reaching diverse audiences, we would like to ask you the following optional demographic questions:	
GARDENER'S GENDER.	Male Female
What year were you born?	
With which race do you identify?	Native American [Eskimo or Indian] Native Hawaiian [or other Pacific Islander] Black White Latino/Hispanic/ Spanish Asian Other [includes multiracial] Prefer not to answer
Would you like to receive occasional updates about this project via email? IF GARDENER DOES NOT HAVE A REAL EMAIL ADDRESS, ALWAYS CHECK NO.	Yes No

CREATING AN ARTIFICIAL EMAIL ADDRESS: (All one word) gardener's first name, last initial, county, state @ vegvariety.cce.cornell.edu

(example: for Juan Estez of Albany county, NY: juanEalbanyNY@vegvariety.cce.cornell.edu) This email address is not valid for anything except to login to the Vegetable Varieties for Gardeners (VVfG) website. Fill out the Gardener Card and give to gardener so they can login to their account and continue to add reviews if they choose.



Gardener Card

Vvi Interviewers:

Write the gardener's screen name, email, and your team leader information on the Gardener Card below. This will allow gardeners to continue using the profile you will establish for them on the Vegetable Varieties for Gardeners website, if they choose.

If gardener does not have an email address, use the following format to create an artificial email address and write it below:

All one word: gardener's first name, last initial, county, state @ vegvariety.cce.cornell.edu

Example: for Juan Estez of Albany county, NY: juanEalbanyNY@vegvariety.cce.cornell.edu) This email address is not valid for anything except to login to the Vegetable Varieties for Gardeners (VVfG) website.

BE SURE ACCOUNT INFORMATION BELOW EXACTLY MATCHES ACCOUNT INFORMATION ON GARDEN PROFILE.





GARDENER ACCOUNT INFO

A citizen science approach to preserving biodiversity and connecting with community

LOCAL CONTACT

Thank you for participating in Vegetable Varieties Investigation (Vvi). Visit Vegetable Varieties for Gardeners online to see the ratings and reviews you provided today, and to browse ratings offered by other gardeners. Using your account information below, you can access and edit your ratings and account information. Please allow up to two weeks from the interview date for your ratings to appear.

vegvariety.cce.cornell.edu

Display Name:	Team Leader:
Email address:	Phone:
Password: GARDEN (this is the default password, you may login to your account and change this)	Email:



Youth Nametags



Vvi INVESTIGATOR



Vvi INVESTIGATOR



Vvi INVESTIGATOR



Vvi INVESTIGATOR



Vvi INVESTIGATOR



Vvi INVESTIGATOR



Gardener Nametags

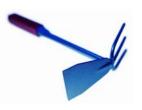




GARDENER

GARDENER





GARDENER

GARDENER





GARDENER

GARDENER



Approval Checklist for Leaders

- 1. Youth submit data collected through gardener interviews online at vegvariety.cce.cornell.edu
- 2. The adult leaders must register before the youth can enter their data online. First, register yourself as a user of the site. This will require you to input info on your local area and a garden of your own (if you do not have a garden, please proceed as if there is one at your site). Second, send an email to vegvariety@cornell.edu with the subject line "Create Vvi Group". Include your name, type of group (4-H, after school, 9th grade class, home school, etc.), and the email you used to set up your own garden profile. We will let you know when your group status has been activated.
- 3. Youth pairs should gather their original forms from their own binders and visit http://vegvariety.cce.cornell.edu.
- 4. Click on the login link. Youth will use email address and passcode as assigned by leader and then can begin submitting data.
- 5. The adult leader should have simultaneous online access to quickly approve student-submitted data. Follow the approval process outlined below:

Instructions for Approval Process

Quality data is critical. Each profile and rating successfully entered will become part of the Vegetable Varieties for Gardeners online library, a tool researchers and gardeners will use to evaluate vegetable varieties' characteristics. A vital role of the adult leader is to ensure the interview teams submit data that accurately reflects what the gardeners shared. To facilitate this, adult leaders are responsible for reviewing and approving youth submissions before they are added to the database.

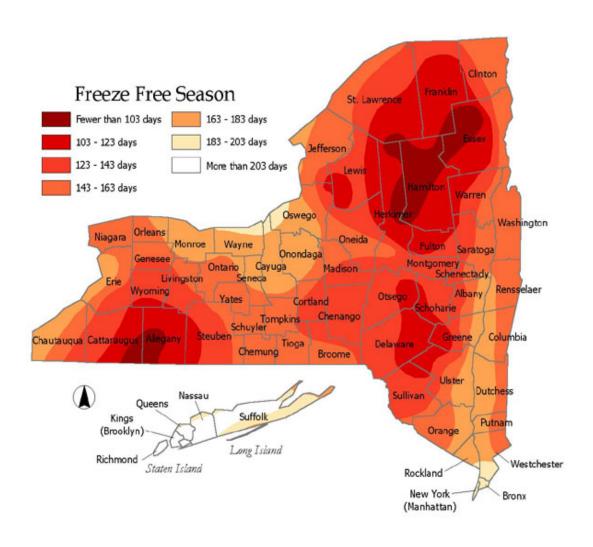
Each garden profile and variety rating requires leader approval. Please carefully check the following before issuing approval:

Approval Checklist

	Does the Variety name appearing on the screen exactly match the Variety name written on the
	Rate this Variety Form?
	Does the Crop name appearing on the screen exactly match the Crop name written on the Rate this
	Variety Form?
	Do the number of stars appearing for overall, taste, yield, and ease/reliability exactly match the
	number of stars for each on the Rate this Variety Form?
	Does the review online match the review written on the Rate this Variety Form?
	Does the review make sense?
	Are the words spelled correctly?
	Are grammar and punctuation correct?
	Does gardener's email exactly match the email on the Garden Profile?
	Does gardener's screen name exactly match screen name on Garden Profile?
	Does gardener's county and state match those on Garden Profile?
П	Does gardener's frost free season match the one on Garden Profile?



NY Freeze Free Season



INTERVIEW FORM: RATE THIS VARIETY

READ THE FOLLOWING QUESTIONS TO YOUR GARDENER. THE CAPS ARE FOR YOUR USE; DO NOT READ THESE TO THE GARDENER.

Let's begin rati	ing.
Please tell me <u>one vegetable variety</u> you have grown and eaten. ENTER VARIETY NAME	CHECK SPELLING WITH GARDENER
What <u>crop</u> is this? ENTER VEGETABLE CROP NAME	
IF THE CROP IS BEAN, CABBAGE, LETTUC CHECK THE MISTAKEN IDENTITIES PAGE	
On a scale of one to five, with five being the best:	
1. How would you rate this variety, overall?	1 2 3 4 5 \$\frac{1}{2} \frac{1}{2} 1
2. How would you rate this variety on <u>taste</u> ?	***
3. How would you rate this variety on <u>yield</u> ?	
4. How would you rate this variety on ease and reliability?	
5. What additional thoughts would you like to share abou in order for the review to be approved)	t this variety? (Gardeners must comment here
Gardener's User Name (email used in In Gardener Profile)	terviewer's Team Name



Additional Resources

Web Resources
Vvi Workshop for Educators Sample Plan



Web Resources

LOCAL/REGIONAL

csrees.usda.gov/Extension

Locate your Cooperative Extension office for assistance in finding gardeners and other resources in your area.

acga.localharvest.org

American Community Gardening Association. Community gardens listed by state, province and country.

usna.usda.gov/Hardzone/ushzmap.html

Use this clickable USDA hardiness map to determine what the frost-free zone is for your area.

INTERVIEW-RELATED

youthlearn.org/activities/interviewing-project

YouthLearn: How to conduct an effective interview including a concept map to help youth plan all aspects of an interview.

youthlearn.org/learning/planning/lesson-planning/how-inquiry/how-inquiry YouthLearn: How to develop an inquiry-based project.

youthlearn.org/learning/teaching/collaboration/pair-share/pair-share-technique YouthLearn: pair share method.

BIODIVERSITY

wellnessways.aces.uiuc.edu/pdf/tg_CulturalDivFood.pdf exercise to become familiar with Cultural Food Diversity

cbc.amnh.org/living/food/know.html

Center for Biodiversity and Conservation: info on biodiversity and our food supply

idrc.ca/en/ev-31631-201-1-DO TOPIC.html

International Development Research Center: Facts and figures on food and biodiversity

slowfoodfoundation.com

Slow Food Foundation for Biodiversity. 30,000 vegetable varieties have become extinct in the last century

sustainabletable.org/issues/biodiversity
Sustainable Table, the issues of biodiversity. Look under 'Crops'



Web Resources (continued)

BIODIVERSITY (CONTINUED)

pbs.org/wnet/nature/secretgarden/backyard.html
PBS Nature. Backyard gardeners can play a role in saving some varieties from extinction

communitygarden.org/gardenmosaics/pgs/science/english/mainscience.htm Garden Mosaics agrobiodiversity page

FURTHER STUDY

communitygarden.org/gardenmosaics

Garden Mosaics science pages – check out the biodiversity, agrobiodiversity, and any of the plant pages. Also use these science pages to explore areas of further interest.

gardenweb.com/vl/#coop
WWW Virtual Library Gardening Links

If you have key resources you think we should add to this list, please email us at vegvariety@cornell.edu. Thank you!



Workshop for Educators Sample Plan

Overview

Below is a sample plan for how you might introduce Vvi to other educators.

Workshop description for participants: Take home tools to help engage youth in citizen science that builds data collection and interviewing skills, connects to community gardeners, and supports biodiversity. Explore some of the activities from Vegetable Varieties Investigation (Vvi) and learn about the online database of vegetable varieties it supports.

Objectives

- engage in sample Vvi activities
- be introduced to Vvi and Vegetable Varieties for Gardeners (VVfG)
- explore how Vvi can be used with youth and community gardeners in relation to your particular program goals

Time

30-45 minutes

Materials

- handouts: Vvi Basics (pages 1-2 in Vvi Toolkit), VVfG Screenshots (pages 77-78),
 Vvi Activities summary page (see Activities section in Toolkit, page 16)
- CDs with toolkit to give to participants (optional)
- Vegetable Variety matching game photos, names, and answer key (see Activities section, pages 24-29)

Instructions

- Veggie Vote lesson plan and materials (see Activities section, pages 33-39)
- 2 copies of complete toolkit to show participants (optional)
- 1. Play the Vegetable Varieties Matching Game. You can have participants choose a vegetable photo and place it with its corresponding variety name as they arrive or do this as a whole group, standing in a circle around the variety names. Using answer key, place photos under correct variety name. This is a good time to discuss the relationship between crop (example: tomatoes), type (example: cherry tomatoes), and variety (example: Sungold).
- 2. Welcome participants and give a brief introduction about who you are and the work that you do. Briefly introduce Vvi as a citizen science project for youth, whereby they collect data on vegetable varieties from community gardeners, submit the data to the online VVfG database, and gain valuable skills such as data collection, interviewing, working as a team, etc.
- 3. Walk through hand outs with participants. Explain that these handouts are a mini version of the toolkit and that the complete Vvi toolkit is available for free download on Cornell Garden-Based Learning's website.



Workshop for Educators

Sample Plan (continued)

Instructions

- 4. Invite participants to first look over the handouts. Next have them work in pairs to synthesize what Vvi is and how they can use it with their own program or students. Prompt with these questions:
- What is Vvi?
- Who is it for? Who can participate?
- Why participate? Whom does it benefit?
- How could you use this in your work?
- 5. Explain that Vvi is the youth component to VVfG. Refer to VVfG screenshots. VVfG is open to everyone who grows vegetables.
- 6. Do the Veggie Vote activity. Divide participants into groups of 3-5. Distribute envelopes of beets or lettuce. Explain they are part of a group starting a small school or community garden. You only have space to plant one variety of lettuce and one variety of beets. Read the description for each variety as well as the reviews and decide which variety you should plant. Discuss with your group mates. Make your case to the whole group.
- 7. Make sure to leave time for questions and further discussion.

vegvariety.cce.cornell.edu



(Cornell University

Vegetable Varieties for Gardeners

Cornell Garden-Based Learning

OpenId Login

Top Rated Varieties

★★★★★ 14 Ratings

2. Rampicante-Tromboncino 1. Zephyr Squash - Summer









Login

Search Cornell

Vegetable Varieties for Gardeners is a citizen science program



Garden Profile

<u>ogin</u> to share your variety reviews

Search sort by: Highest Overall Rating 💉 order: Descending V crop: Find: <u>=</u> ₽ Ąŋ

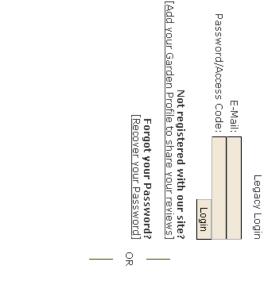
Login to limit results to your state or frost-free growing season.

Search

facebook group+







Which varieties are best for your garden?

too. Vegetable Varieties for Gardeners (VVfG) is a web-based tool that compiles informa-Curious which vegetable varieties might grow best in your garden? Cornell researchers are influence breeding efforts and seed availability tion from gardeners to help you decide what to grow. The information you supply may also

View ratings and reviews

how other gardeners have rated many of them Search or browse to see detailed descriptions of more than 5,000 vegetable varieties and

Review varieties

Share your own opinions. Create a garden profile and let your fellow gardeners build on ready created a profile, login to submit variety reviews. your experiences of what worked and what did not work in your garden. If you have al-

Ø my penID AOL 🍥 Google Please click your account provider: œ Q extension d OpenID YAHOO! 2

Most Reviewed Varieties

5. Fordhook Giant Swiss Chard

★★★★★ 8 Ratings 今本本本本 8 Ratings

4. Cayenne Long 3. Italian Large Leaf Basil Squash - Summer

> 外外外外外 10 Ratings ***

9 Ratings

1. Sungold Tomatoes 7. Brandywine 7. Brandywine 7. Reviews 7. Revi
--

Be the First to Review

O Reviews O Reviews O Reviews O Reviews	1. Ruby ring Onions Onions 2. Miyashige Radishes 3. Early Idaho Beans 4. Early Midget Melons 5. Hot Lemon Peppers
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Step 1: Complete Your Garden Profile

Create a Garden Profile

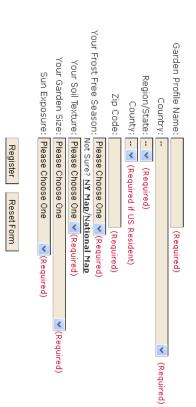
Recieve occasional site updates? No	Your Gardening Experience: Please Choose One	Retype Password:	Password:	Retype E-Mail:	E-Mail (will serve as your username):	Display Name:	Filot Name.
	Choose One (Required)	(Required)	(Required)	(Required)	(Required)	(Required)	

Cornell University values diversity and is committed to welcoming all individuals to our programs. To help us evaluate how effective we are at reaching diverse audiences, please answer the following optional demographic questions.

	<	Not Available	e you of Hispanic, Latino or Spanish Not Available
<		Not Available	Which race do you identify? Not Awailable
	<	Not Available	What year were you born? Not Available 🕶
	<	Not Available	What is your gender? Not Available 🕶

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Your garden profile details (below) will be critical for fellow gardeners searching for reviews and ratings from gardeners with similar conditions.



Vvi Leaders request to establish a group after they have set up a garden profile for themselves. Once a group is set up, leaders determine a passcode for youth participants to use. Youth can then login to input garden profiles and reviews for gardeners they interview.

Step 2: Write Reviews, Search for Varieties, Read Reviews Sample Reviews: Sungold cherry tomatoes

KEY: O=Overall Rating, T=Taste, Y=Yield, E=Ease

Reviewed on 01/16/2011 by Macadoo of Montgomery, Pennsylvania, United States

O:***** sweetest tomatoes I have ever grown. 3 grandchildren help me garden and few, if any of I:**** these tomatoes make it to the kitchen. Kids eat them like candy.
Y:*****
E:*****

1 of 1 gardener found this review helpful.

Reviewed on 01/15/2011 by OhioMG of Huron, Ohio, United States

O:***** We've grown Sungold for many years. It is the top seller in seedlings for us, selling out (and T:**** then some) every year. The pints we offer also ell out at market. This little tomato scores high '(***** then some) every wear. In a row. My husband says it is not summer without his E:***** Sungold cherry tomatoes! Early to bear, late to stop, and prolific beyond imagination.

Wonderful flavor, much more balanced than Sunsugar in our opinion. It's a must have variety for us.

1 of 1 gardener found this review helpful.

Reviewed on 12/27/2010 by Lilikoi of San Diego, California, United States

O:***** Very easy to grow. We had some in full sun and some in partial shade they all thrived and
I:**** produced. The plants in the sun produced through November, in the shade through October.
Y:*****
They crack when harvested if they are very ripe, you can cut off the whole bunch (probably not
E:*****
The correct word) so they will last a bit longer if you fall behind on the harvesting - which is
easy to do with these tomatoes. So more like 4 1/2 stars.

Reviewed on 12/06/2010 by anr44 of Tompkins, New York, United States

O:****** My garden is never without sungolds. Being indeterminate, they can get leggy if not properly
I:**** staked and pruned. However, no matter what you do, they will produce TONS of tomatoes over
Y:**** a rearly two month period. These are often some of the first tomatoes to begin fruiting in my
E:**** garden, as well as some of the last to stop fruiting. They just keep going! I fell in love with the
sweet, fruity flavor of sungolds eating them by the handful in my dad's garden as a kid. If you
have a kid who does not like tomatoes, this is THE variety to get them hooked. While their
flavor is addictive and extremely satisfying even to an adult, it is not as "tomatoey" as a
brandywine, cherokee purple, or other large heirlooms.

Reviewed on 08/27/2010 by vschlaff of Washtenaw, Michigan, United States

O:****** These are wonderfull!! I wll never plant another type of cherry tomato. My plants did very well. T:**** disease resistant. I dried a lot of batches of these. I ate and gave away ton's and still have Y:***** some on the plants. They do crack, but they still taste good cracked.

E:*****

New mapping feature can help narrow your search to reviews in your region.