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EC-12
2021

Grow It Eat It Dry It for Adults

Grow It Eat It Dry It for Adults (GIEIDI) Instructor Guide

Developed by University of Maryland Extension (UME)

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Introduction

Welcome to University of Maryland Extension's Home Food Preservation Program: *Grow It Eat It Dry It for Adults!* Food preservation has become popular among both adults and youth in Maryland. People are interested in knowing where their food comes from and are inspired to learn how to preserve food at home. As a result, many are growing their own gardens, are active in community gardens and are purchasing foods locally from farmer's markets and Community Supported Agriculture (CSA's).

Drying is one of the oldest methods for preserving foods. It's a simple and easy way to take fresh produce and dry and store it to consume later. Dried foods are ideal for snacks or quick foods on the go.

Like other food preservation methods, there are important food safety concerns to address to prevent foodborne illness when drying foods. This curriculum was developed to help Marylanders learn about scientific evidence-based methods for successfully drying foods safely at home.

GIEIDI Instructor's Guide

The Educator's guide contains teaching and marketing tools for Extension Educators to effectively present *Grow It Eat It Dry It* workshops in their communities. The curriculum includes the following:

- ❖ A PowerPoint presentation with educator instructions and notes;
- ❖ A literature and online resource list for drying foods;
- ❖ Drying handouts for participants; and
- ❖ An activities guide to enhance learning experiences for participants.

The PowerPoint presentation includes a history of drying, general steps for drying foods, drying methods and types of foods to dry. Educators have the flexibility to choose the type of drying food activity to demonstrate in workshops.

The curriculum is divided into two main sections:

- 1) **Classroom discussions** dedicated to teaching basic food safety principles and drying methods.
- 2) **Demonstration/hands-on activities** providing participants the opportunity to practice safe drying methods or pre-treatment techniques for drying.

The curriculum requires approximately 1.5 to 2 hours to present, depending on the demonstration/hands-on activities and the number of participants in the workshop. A suggested time guideline to follow for workshops is:

- 60 minutes for the presentation and discussion;

- 15-30 minutes for hands-on activity and demonstration; and
- 15-30 minutes for questions, clean up, evaluation, and review.

Workshop Facility Guidelines:

The facility used to conduct a drying foods workshop should have a potable (drinkable) water supply, sink, prepping area, access to basic kitchen utensils (refer to the educator's checklist), cleaning supplies, and a demonstration area.

The GIEIDI curriculum includes a variety of resources that reinforce important principles so participants feel more confident about successfully dry foods at home. These resources include handouts on general food safety, basics of drying foods, drying methods and equipment, and storage. A pre-post and 6-month follow-up evaluation tool are included for Extension educators to administer and assess the impacts of the program.

We recommend that educators use the latest edition of *So Easy to Preserve* (University of Georgia Cooperative Extension) as a resource for drying food workshops. This resource is referenced throughout the educator's notes on the GIEIDI PowerPoint presentation.

Working with Adults

The GIEIDI curriculum combines delivery of new information with practical opportunities to apply existing knowledge and experience. Educators should encourage participation during workshops by asking questions and providing opportunities for participants to contribute to discussions. Large groups can be divided into smaller groups to promote conversations and learning from each other. Educators are also encouraged to engage participants in activities. Each workshop can begin with a review of participants' experiences and ideas about home food preservation. The hands-on component of the workshop is critical. Adults enjoy the opportunity to practice what they learn. Supplemental activities are included in the teaching notes and as a handout in the Appendix.

Grow it Eat it Dry it

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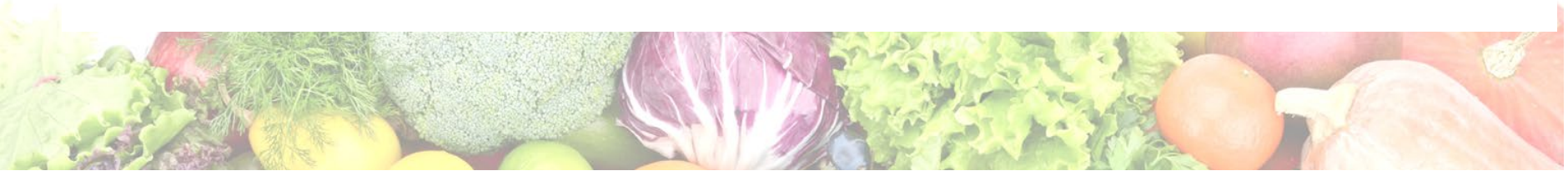
Credits

- National Center for Home Food Preservation, University of Georgia Cooperative Extension
- *So Easy to Preserve*, 6th edition, Cooperative Extension, University of Georgia/Athens



Disclaimers

- This slideshow is a description of principles and considerations for food dehydration at home.
- It is not intended to be complete directions or instructions for drying specific foods. This slideshow was developed to help educators provide general directions on safely dehydrating food at home.
- References to commercial products, services, and information are made with the understanding that no discrimination is intended and no endorsement by the University of Maryland, U.S. Department of Agriculture and supporting organizations is implied. This information is provided for the educational information and convenience of the reader.



Objectives of Preserving Food

***To create an environmentally sustainable food supply
throughout the year***

- Extend shelf life
- Nutritious
- Safer food



History of Food Preservation

Middle Eastern and Asian cultures used **sun** and wind to **dry foods naturally**

Cylindrical dehydrator patented

Freezing, pickling, canning, and curing

Still house built to use fire for **heating** and **drying** foods

Nearly all rural farms wired with **electricity**

Fermenting

12,000 BC

10,000 BC

~500-1500 AD

~1800s

~1950s

~1980s



Why Dry?

- Simple to process
- Requires minimum equipment, supplies, and ingredients
- Reduces size and weight of food
- Longer shelf life
- Requires less storage space
- Portable (travel-friendly)



Why Not Dry?

- Time: preserving foods can vary from 1 hour to 6 days
 - Parsley vs peaches (1 hour vs 48 hours)
- Requires monitoring
- Not suitable for all foods

Foods that might not dry well

Avocados, citrus fruits, olives, pomegranate, celery, lettuce, chicken (for jerky)



How Drying Preserve Foods

- Removes moisture
- Prevents pathogenic growth
- Slows enzyme activity



General Steps for Drying Foods

1. **Cut** food into thin, uniform slices to dry evenly.
2. **Arrange** food in single layers to avoid overlapping other pieces.
3. **Follow** the directions in a tested recipe carefully.
4. **Stir**, mix, and rotate trays occasionally.
5. **Check** foods frequently near the end of the drying process.



Factors to Consider

You must be able to control:

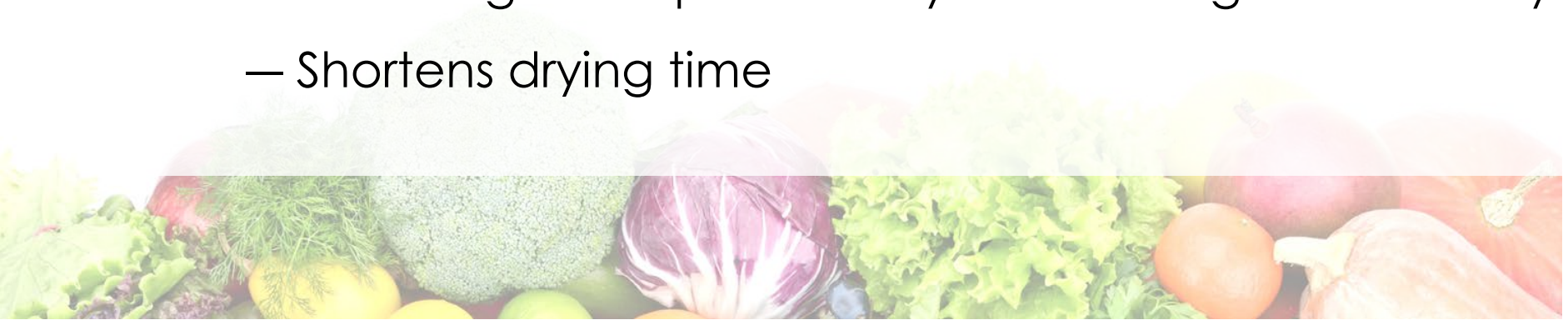
1. Temperature

- 140°F is ideal for drying **most foods** indoors
- Temperatures above 140°F will cook food and cause case hardening

2. Humidity

3. Air circulation

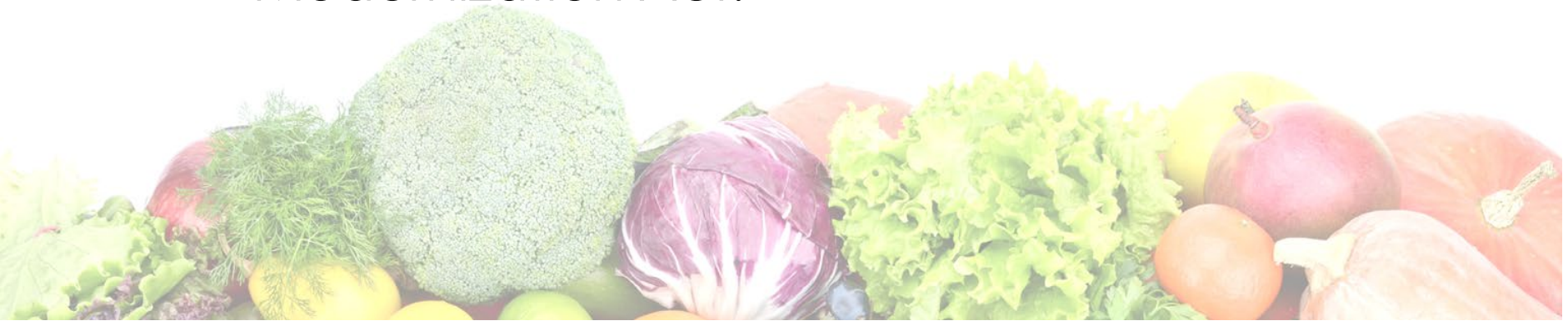
- Encourages evaporation by maintaining low humidity
- Shortens drying time



Factors to Consider (cont.)

Allergens:

- are a significant public health concern
- can pose a risk primarily through cross contamination or if the allergen is the food itself
- Regulatory information related to food allergens come under the Federal Food Safety Modernization Act.



Methods for Drying Foods

***Outdoor:**

- Vine
- Sun
- Solar

Indoor:

- Room
- Oven
- Dehydrator
- Microwave



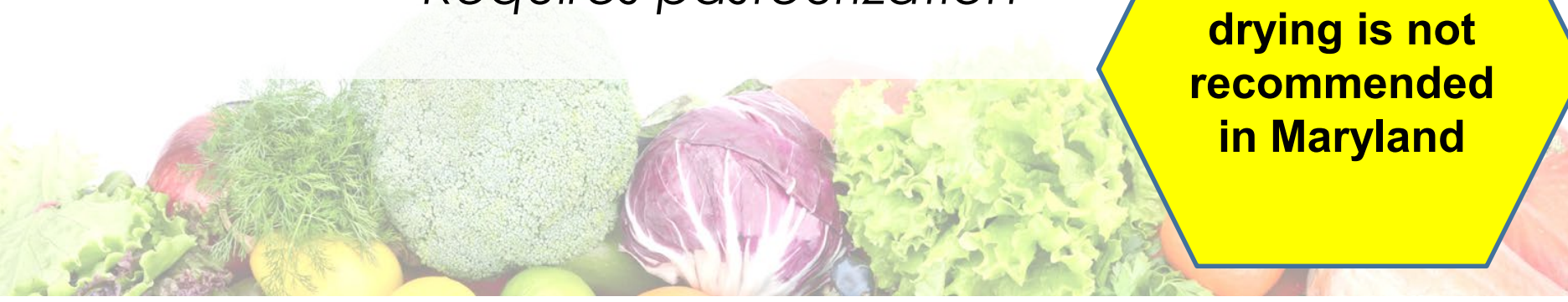
Outdoor: Vine drying

- **Best for:** beans and lentils
- **Weather:** hot-85°F or higher
- **Equipment:** none
- **Work:** minimal
- **Pros:** low cost, no pretreatment
- **Cons:** takes several days, may need additional drying method



Requires pasteurization

**Outdoor
drying is not
recommended
in Maryland**



Pasteurization

Required for all methods of drying outdoors to kill insects and their eggs

Freezer method: Seal food in freezer-safe containers and place in freezer set at 0°F or below for at least 48 hours.

Oven method: Place food in single layers on a tray. Place in a preheated 160°F oven for 30 minutes.



Outdoor: Sun Drying

- **Best for:** fruits - high in sugar and acid
- **Weather:** 85°F or above, breezy, humidity less than 60%
- **Equipment:** requires 2 “food grade” racks or screens
- **Work:** requires food to be turned 2-3 times per day and covered or brought in at night



**Outdoor
drying is not
recommended
in Maryland**

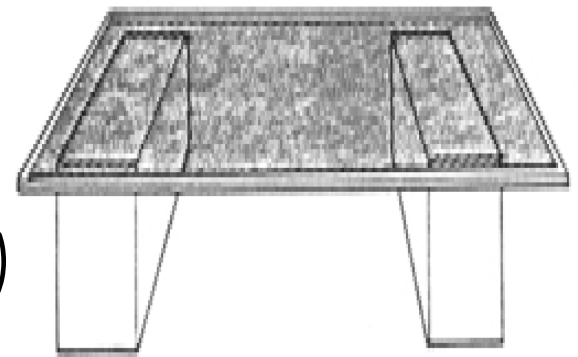
Outdoor: Sun Drying (cont.)

- **Pros:** low cost, high yield
- **Cons:** only for limited foods (not for meat jerkies)

takes several days

requires consistent air quality

and weather (hot, dry, breezy)



Requires pasteurization

**Outdoor
drying is not
recommended
in Maryland**



Outdoor: Solar Drying

- **Best for:** fruits high in sugar and acid
- **Weather:** direct, full sun with adequate air flow and temperatures between 105 - 115 ° F
- **Equipment:** solar dryer
- **Work:** construct solar dryer, Turn food 2-3 times a day

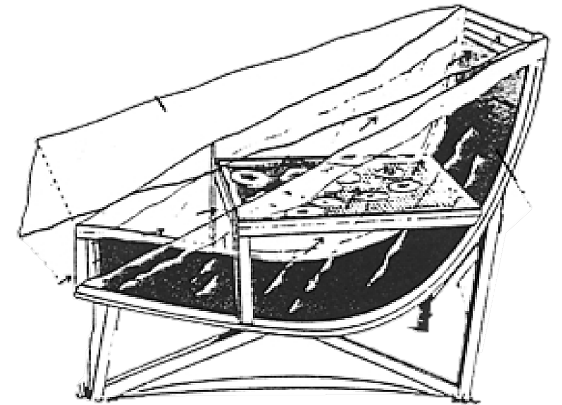


**Outdoor
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recommended
in Maryland**



Outdoor: Solar Drying

- **Pros:** faster drying time, decreased risk of food spoilage
- **Cons:** lower yield than sun drying. Equipment can be time consuming and costly. Cannot be done when air quality is poor.



Requires pasteurization



**Outdoor
drying is not
recommended
in Maryland**

Indoor: Room Drying

- **Best for:** herbs, unshelled nuts, hot peppers, partially dried fruits
- **Weather:** indoors, well-ventilated, low humidity
- **Equipment:** trays, paper bags, string
- **Work:** bundling herbs or peppers, spreading nuts in single layers on a rack above a tray
- **Pros:** can be done year round, low cost, no pre-treating needed, consistent air quality
- **Cons:** takes several days, drying times vary



Indoor: Oven Drying



- **Best for:** meats and vegetables
- **Weather:** indoors, low humidity
- **Equipment:** oven, with low temperature setting (140°F), cookie sheets and liners or cooking spray, fan, oven thermometer



Indoor: Oven Drying (cont.)

- **Work:**

oven set up: racks 2-3 inches apart, positioning fan close to oven's opened door

food set up: single layer on cookie sheets, rotate food occasionally, watch for scorching

- **Pros:** relatively low cost, air quality not a factor

- **Cons:** slow method, requires low oven temperature setting, high energy use, ties up oven, safety concern



Dehydrator Drying

- **Best for:** most foods except milk and egg products
- **Weather:** is not a factor
- **Equipment:** electric food dehydrator, counter top design



Dehydrator Drying (cont.)

- **Work:**

- Buy dehydrator
- Slice food in uniform pieces
- Occasional turning and testing for dryness



- **Pros:** high quality, sanitary, fast, cost-effective

- **Cons:** equipment cost, limited capacity



Dehydrators- Features

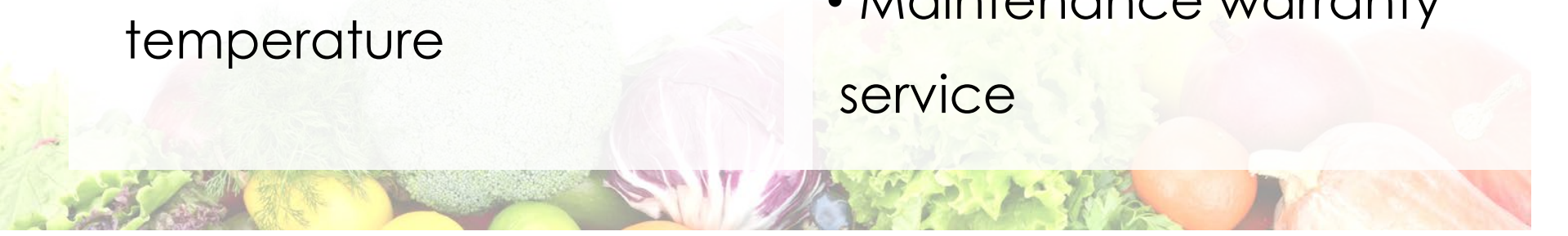
MUST HAVE features

- Double walled, made with metal or high grade plastic (not wood)
- Enclosed heating element
- Counter-top design
- Dial to regulate temperature

- UL seal
- At least 1 year guarantee
- Fan or blower
- Sturdy, plastic or metal, washable mesh trays

OPTIONAL features

- Auto shut-off timer
- Maintenance warranty service



Dehydrator Design: What's the Difference?

Horizontal air flow

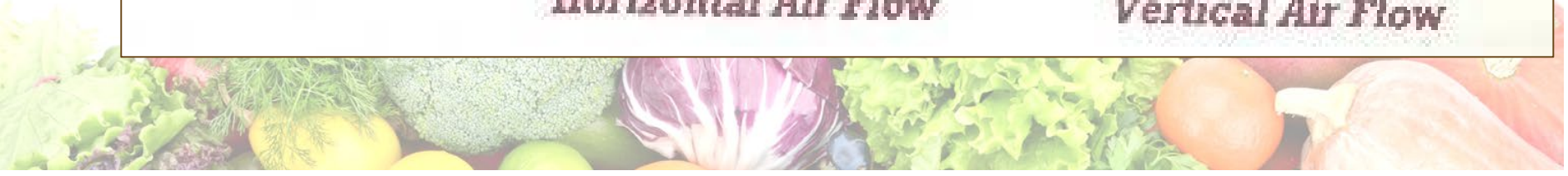
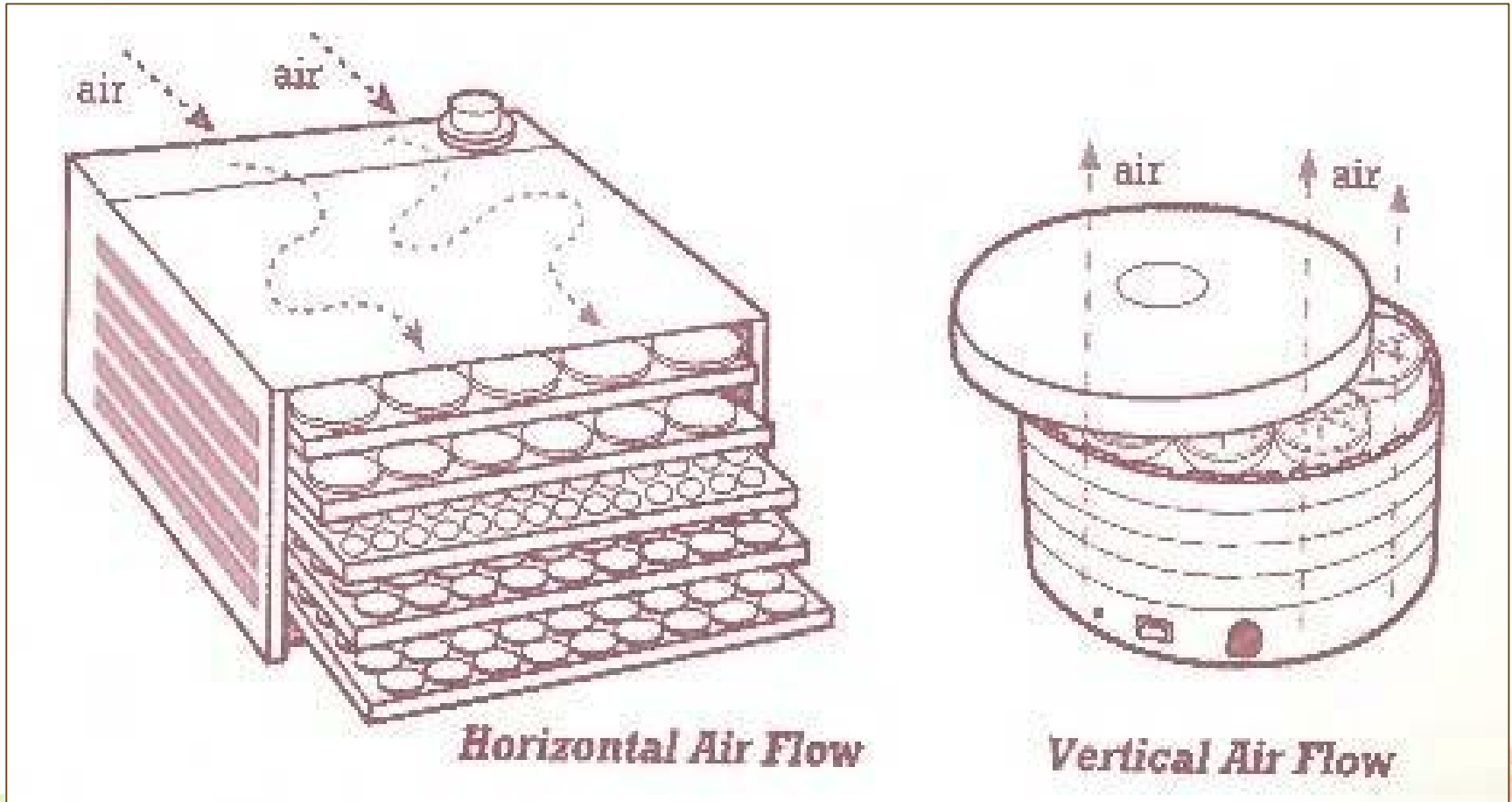
- Reduces flavor mixing
- Uniform drying
- Heating element stays clean
- Limits height of food pieces

Vertical air flow

- Flavors might mix
- Trays must be rotated often
- Heating element can get soiled



Dehydrator Design: What's the Difference?



Drying Fruits



Fruit- Preparation

- Wash
- Remove core, if needed
- Pretreat and/or prevent discoloration
- Dry
- Uniform pieces- whole, halved or sliced

**Remember: peeled and thinly sliced fruits dry
quickest**



Fruits - Pretreatment

Sugar

- Ascorbic acid mixtures
- Fruit juice dip
- Honey dip
- Syrup blanching

Non-sugar

- Sulfuring
- Sulfite dip
- Ascorbic acid
- Steam blanching
- Salt dip



Pretreatment: Sugar

Ascorbic acid mixtures

- Made of ascorbic acid and sugar

Fruit juice dip

- Choose 100% juices high in vitamin C (orange, lemon, pineapple, grape, or cranberry)

Honey dip

- Much higher in calories and sugar

Syrup blanching

- Retains the color during drying and storage. The final product is similar to candied fruit.



Pretreatment: Non-sugar

Ascorbic acid

- Available in the powdered, crystalline or tablet-form

Steam blanching

- Retains color and slows oxidation

Sulfuring*

- Not recommended for those with asthma or sulfur allergies

Sulfite dips*

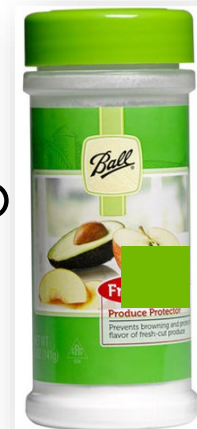
- Sodium bisulfite, sodium sulfite, sodium meta-bisulfite

Some individuals are known to have a reaction to sulfating agents.

Preventing Discoloration

- Ascorbic Acid
 - Forms: Powdered, tablets (crush well), syrup or liquid

Amount is specific to fruit being dried



- Lemon juice
- Citric acid solution
 - Not as effective as ascorbic acid
 - May mask flavors



Drying Fruits

- Place fruits in a single layer on the tray
- Food dries faster towards the end of the drying period, check more frequently.
- Dry fruit until pliable with no visible signs of moisture
 - **Tests:** Cut cool pieces in half, squeeze



Fruits – Conditioning

- Conditioning assures the product is evenly dried
- Cool product for 30 to 60 minutes
 - Packaging too soon = moisture could be retained
 - Packaging too late = moisture could be absorbed from the air
- Store in dry, moisture-proof containers

Check for the mold growth and other changes



Drying Vegetables



Drying Vegetables: Preparation

- Select freshly picked, unblemished, high-quality vegetables
- Wash and air dry vegetables
- Trim and peel according to the tested recipe
- Cut into uniform pieces
- Use chosen drying method soon as possible after washing and air drying



Vegetables - Pretreatment

- Water blanching



- Steam blanching



Drying Vegetables

- Drying time for vegetables is crucial to tenderness
- Depends on heat, air dryness and air circulation
- Dry until brittle or crisp
- Does not require conditioning like fruits
- Store in airtight containers



Fruit and Vegetable Leathers

- Homemade fruit rolls
- Made by pouring pureed produce onto a flat surface for drying
- Flavors can be mixed
- Spices, flavorings and garnishes can be added



Drying Leathers- Storage

- Test for dryness
- Roll in plastic wrap and store in moisture-proof containers
- Store:
 - at room temperature for 1 month or
 - in the freezer for up to 1 year, tightly rolled and sealed



Jerky



Jerky: Picking a Protein

- Use only oven or dehydrator
- Best to use only lean meat
 - beef
 - pork
 - smoked turkey breast
 - wild game (venison)
 - ground beef
 - Raw Poultry* NOT RECOMMENDED
 - chicken, turkey, duck, geese



Raw meat can be contaminated with microorganisms that cause disease.

It is important to follow safe food handling practices.

Jerky: Preparing Meat

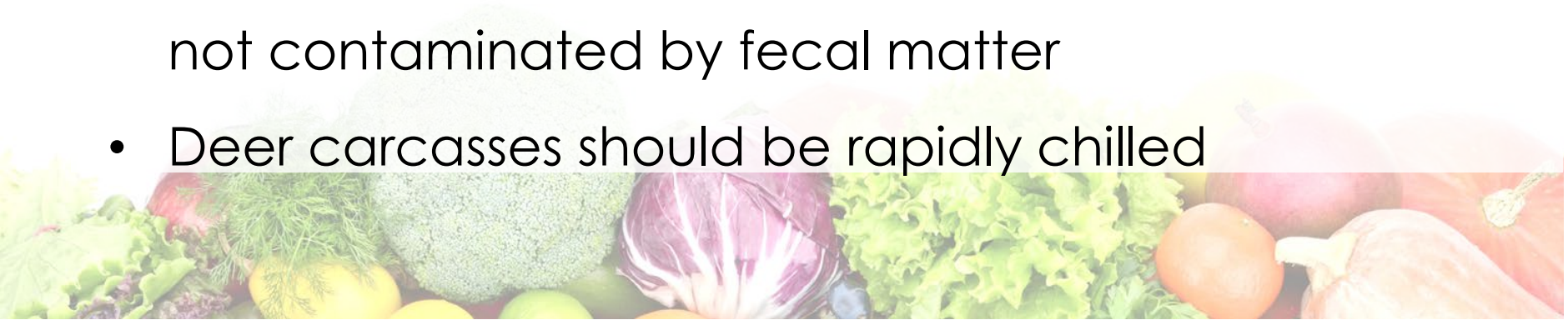
Ground meat

- Cook to an internal temperature of 160°F will reduce *E. coli*
- Will require using special presses to form the shape



Post hunt

- Consider the wound site and dressing, so that meat is not contaminated by fecal matter
- Deer carcasses should be rapidly chilled

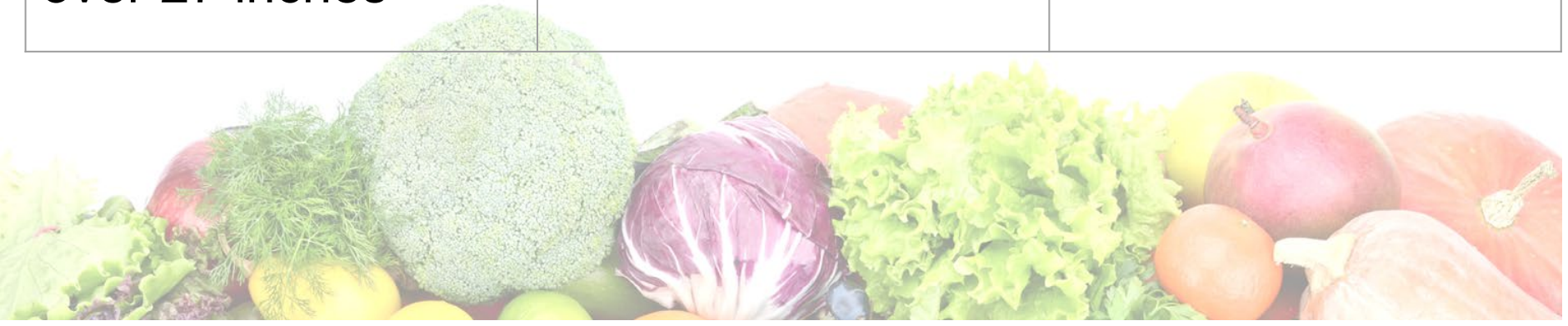


Jerky: Preparing Meat

Wild game & pork:

- Reduce *Trichinella* parasites by freezing

Thickness of pork or wild game	Temperature (°F)	Days in the freezer
0 to 6.0 inches	5°F	20
6 inches and not over 27 inches	5°F	30



Jerky: Food Safety

- Only use an oven or dehydrator to control humidity and temperature for safe drying.
- For consumer food safety resources:

Fightbac.org
askkaren.gov
Extension office



“Is it *done* yet?”
You can't tell by looking. Use a food thermometer to be sure.

USDA-Recommended Safe Minimum Internal Temperatures

145°F	145°F	160°F	160°F	165°F
with a 3-minute rest time				
				
Beef, Pork, Veal & Lamb Steaks, Roasts & Chops	Fish	Beef, Pork, Veal & Lamb Ground	Egg Dishes	Turkey, Chicken & Duck Whole, Pieces & Ground

www.FoodSafety.gov

USDA Meat & Poultry Hotline
1-888-MPHotline (1-888-674-6854)

CLEAN SEPARATE COOK CHILL

Food Safety and Inspection Service

USDA is an equal opportunity provider, employer, and lender.
July 2005
Slightly Revised November 2017

Jerky: Marinade

- Marinating meat adds flavor and improves tenderness
- Refrigerate strips in marinade at 40°F or below
- Marinades can be used in a heat-treatment to reduce foodborne pathogens

**Do not reuse the raw-meat marinade.
It is important to follow safe food handling practices.**

Jerky: Heat Treating

- Heat treating meat before dehydrating can reduce microbial risk
- Pre-drying treatment
 - Heat meat strips in marinade before drying
- Post-drying treatment
 - After the drying process, heat dried jerky strips in an oven



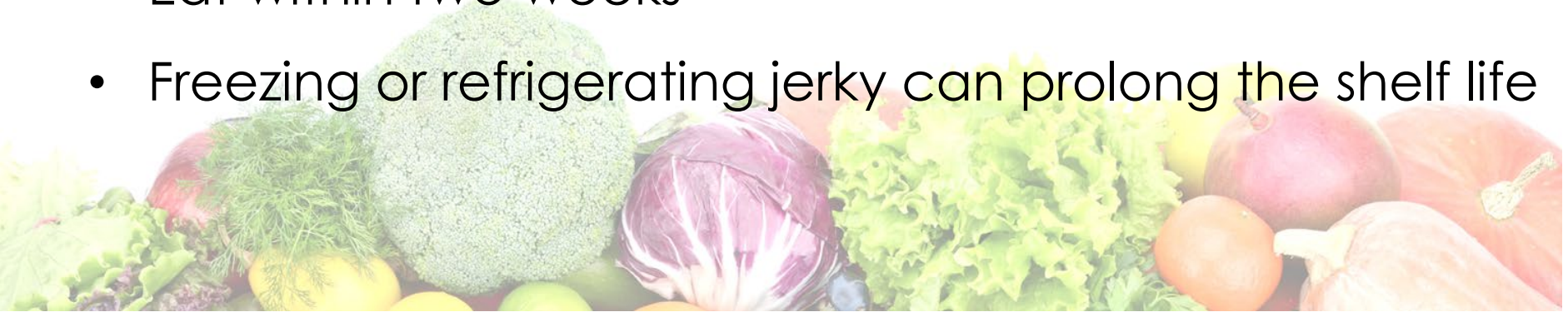
Jerky: Test & Storing

Testing dryness

- Begin checking for dryness after 3 hours
- Jerky should crack but not break when bent

Store at room temperature

- Use a sealed container or vacuum seal
- Label the container of the product and date
- Eat within two weeks
- Freezing or refrigerating jerky can prolong the shelf life



Drying Herbs



Drying Herbs

- Harvest herbs before flowers open
- Rinse in cool water and shake off excess water
- Separate leaves from stems and lay on paper towel
- Choose a recommended method to dry herbs:
 1. Air drying
 2. Dehydrator
 3. Microwave
 4. Oven



Air Drying Herbs

- Sun drying is not recommended
- Expose to warm, dry, well-ventilated indoor air
 - Tie in small bundles
 - Hang inside paper bags with holes in the sides
 - Close top with a rubber band
- Dried when leaves crumble and stems break

Bag

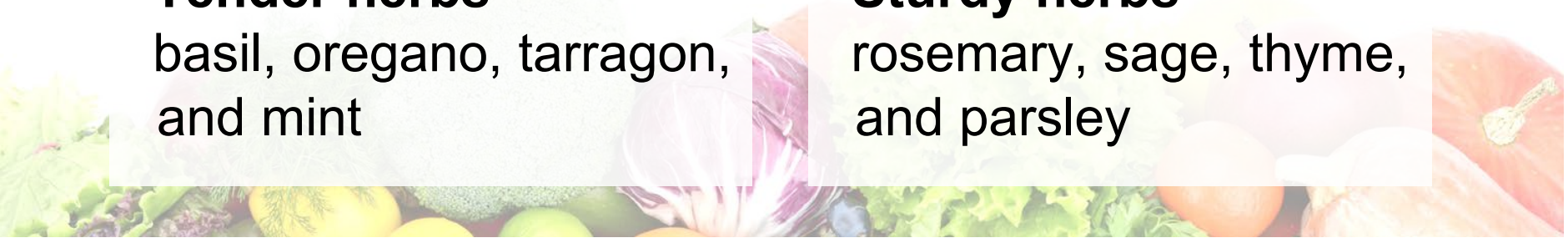
Tender herbs

basil, oregano, tarragon,
and mint

No Bag

Sturdy herbs

rosemary, sage, thyme,
and parsley



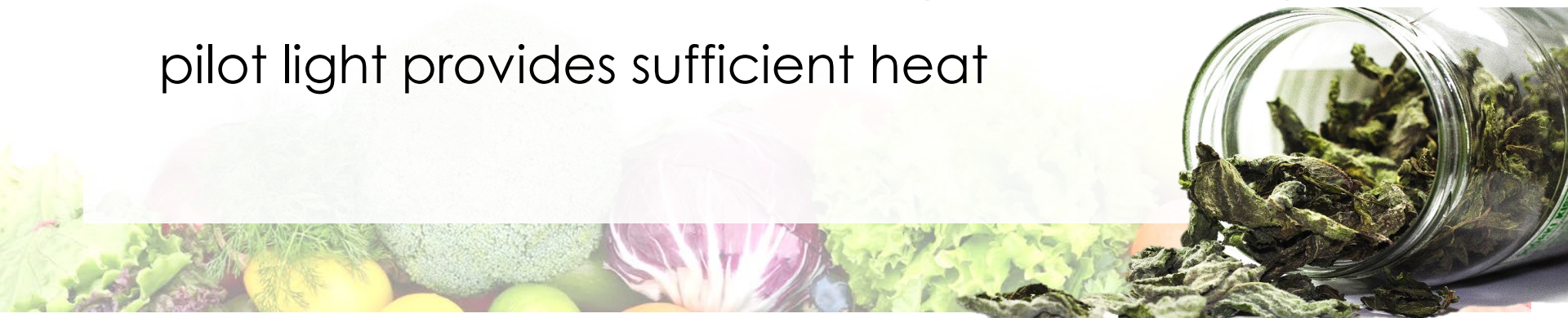
Dehydrator Drying Herbs

- Set thermostat to 95°F -115°F (125°F when humidity is high)
- Drying times vary from one to four hours
- Rinse herbs under cool water. Shake excess moisture
- Place herbs in a single layer on dehydrator trays
- Check herbs occasionally. Herbs are done when they crumble and stems break when bent



Oven Drying Herbs

- Use a cool oven with only the oven light or pilot light on
- Remove best leaves from stems
- Place herbs on a paper towel in a single layer, without touching other leaves.
- Cover with another paper towel. Can repeat layers
- Dry in a very cool oven overnight, an oven light or pilot light provides sufficient heat



Microwave Drying Herbs

- Microwaves can be used to dry small quantities
- Follow manufacturer's handbook for safe herb drying
- Check periodically – done when herbs crumble and stems break when bent



Storing Dried Herbs

- Make sure herbs are completely dry to prevent mold growth during storage
- Avoid exposing to air, heat, and light
- Use airtight and vapor-proof packaging such as vacuum seal packaging, air-tight jars/bags/containers.
- Store in a cool, dry, dark place such as cupboards or drawers away from stoves and sinks



Storing Dried Herbs (cont.)

- Storing dried herbs in the refrigerator or freezer will maintain their freshness,
- Use freezer jars or heavy-duty aluminum foil to avoid odor transfer.
- Most dried herbs keep well for up to two years.
- Judge their strength by their aroma.
- Whole herbs are preferred because they hold their oils and retain their flavor longer.



Drying Seeds and Peanuts



Drying Seeds and Peanuts

- May dry some seeds (such as sunflowers, pumpkin)
- May dry peanuts

Drying Versus Roasting



Tips for Drying Seeds and Peanuts

- Don't mix drying times or foods with strong smells
- Use parchment paper or vegetable spray
- Single layer with no overlapping pieces
- Rotate the trays and turn foods frequently
- The larger the quantity, the longer the drying time.



Drying Methods for Seeds and Peanuts

- Methods:
 - Sun
 - Dehydrator
 - Oven



Be aware of peanut allergies. Clean all equipment thoroughly.



General Points for Rehydrating

- Rehydrating fruits

- Reconstitute in water

- May add:

- salt to increase sweetness

- citrus juices for a fresh flavor and Vitamin C

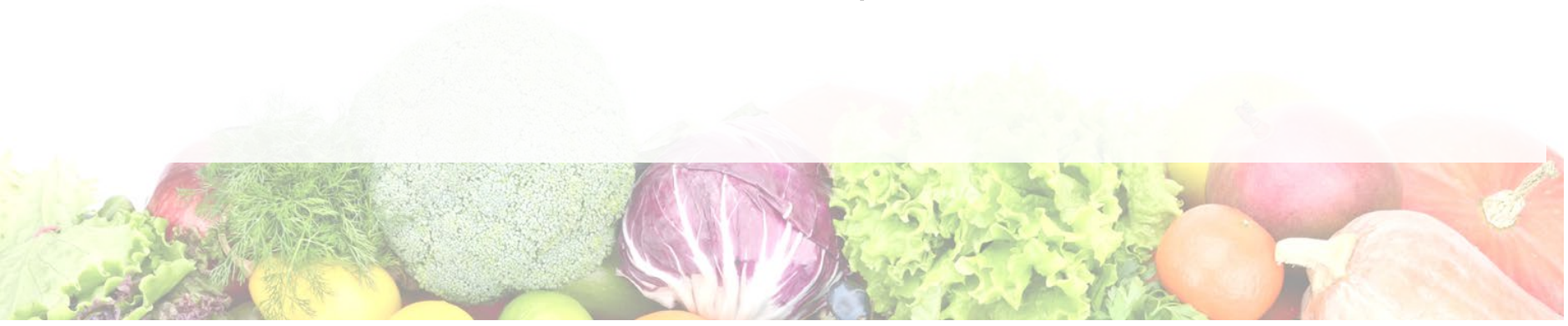
- Rehydrating vegetables

- Reconstitute with water, bouillon or vegetable juice



Summary Points for Drying

- Cleanliness is key!
- Marinate jerky meat in refrigerator
- Preheat dehydrator to required temperature per recipe
- Avoid case hardening
- Cool to room temperature before packaging
- Store in cool, dark, and dry conditions



Let's Preserve!!!



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Publication Number
Year

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Appendix

The University of Maryland Extension programs are open to any person and will not discriminate against anyone because of race, age, sex, color, sexual orientation, physical or mental disability, religion, ancestry, national origin, marital status, genetic information, political affiliation, and gender identity or expression

University of Maryland Extension Presents **Grow It Eat It Dry It Program for Adults**

Grow It Eat It Dry It workshops teach people how to safely dry and preserve foods at home. The curriculum focuses on four key points:

- ❖ Using tested recipes for drying food;
- ❖ Choosing proper equipment based on various drying methods;
- ❖ Storing foods according to specific recommendations; and
- ❖ Following safe food handling practices.

<https://extension.umd.edu/foodpreservation>

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List of Appendix Topics

- I. UME Grow It Eat It Dry It: Food Preservation Resource List
- II. UME Grow It Eat It Dry It: Activity List
- III. UME Grow It Eat It Dry It: Educator's Checklist
- IV. UME Grow It Eat It Dry It: Evaluations
- V. Sample Grow It Eat It Dry It: Marketing Brochure

UME Grow It Eat It Dry It Food Preservation Resource List

Literature Resources

- *USDA Complete Guide to Home Canning*, U.S. Department of Agriculture, 2015 revision, https://nchfp.uga.edu/publications/publications_usda.html
- *So Easy to Preserve*, The University of Georgia Cooperative Extension, 6th edition, 2014, University of Georgia, National Center for Home Food Preservation, <https://setp.uga.edu/>
- *Putting Food By*, Greene, J., Hertzberg, R., & Vaughan, B. Penguin Group, 2010.

Online Resources

- University of Maryland Extension's *Food Preservation* website, <https://extension.umd.edu/foodpreservation>
- The National Center for Home Food Preservation, *Food Dehydration* <https://nchfp.uga.edu/how/dry.html>
- *Drying Guidelines*-Minnesota Extension, <https://extension.umn.edu/preserving-andpreparing/methods-drying-food-home>
- *Introducing Food Dehydration*, University of Missouri, <https://extension2.missouri.edu/gh1562>
- *Drying Fruits*, -Colorado State University, https://nchfp.uga.edu/how/dry/csu_dry_fruits.pdf
- *Drying Vegetables*, -Colorado State University, https://nchfp.uga.edu/how/dry/csu_dry_vegetables.pdf
- *Drying Vegetables*, -Clemson University, <https://extension.usu.edu/foodpreservation/ou-files/dryingvegetables.pdf>
- *Drying Fruits and Vegetables*, -University of Georgia, https://nchfp.uga.edu/publications/uga/uga_dry_fruit.pdf *Drying Fruits and Vegetables*, Penn State University, <https://extension.psu.edu/dryingfruits-and-vegetables>
- *Drying Fruits and Vegetables*, Montana State University, <http://msuextension.org/publications/HomeHealthandFamily/MT200909HR.pdf>



- *Leathers and Jerkies*, Colorado State University, <https://extension.colostate.edu/topicareas/nutrition-food-safety-health/leathers-and-jerkies-9-311/>
- *Making Fruit Leathers*, North Dakota State University, <https://www.ag.ndsu.edu/publications/food-nutrition/making-fruit-leathers>
- *Drying Meat Jerky*, Cornell University, <http://ccetompkins.org/resources/handy-reference-for-drying-meat-jerky>
- *Making Jerky in a Home Dehydrator*, University of Wisconsin, https://foodsafety.wisc.edu/assets/pdf_Files/Making_Safe%20Jerky_in_a%20Home_Dehydrator3.pdf
- *Making Jerky At Home Safely*, - University of Idaho, <https://www.cals.uidaho.edu/edcomm/pdf/PNW/PNW0632.pdf>
- *Dehydration for Fruits, Vegetables and Meats*, Virginia Cooperative Extension, <https://pubs.ext.vt.edu/348/348-597/348-597.html>
- How-to-videos for fruits, vegetables, herbs, University of Maine, <https://extension.umaine.edu/food-health/food-preservation/how-to-videos/>
- *Drying Herbs* fact sheet-Penn State University, <https://extension.psu.edu/drying-herbs>
- *Drying Herbs, Seeds and Nuts*, Clemson University, <https://hgic.clemson.edu/factsheet/dryingherbs-seeds-nuts/>
- *Drying Seeds and Herbs*, Oregon State University, <https://extension.usu.edu/foodpreservation/ou-files/dryingvegetables.pdf>
- *Drying Venison* Utah State University, http://extension.usu.edu/juab/ou-files/ezplug/uploads/FCS/FN_Harvest_2009_01pr_venison_usu_final.pdf
- Home page for a variety of food safety topics from Penn State Extension, <http://foodsafety.psu.edu/default.html>
- *Basics of Food Handling*, Clemson Cooperative Extension, http://www.clemson.edu/extension/hgic/food/food_safety/handling/hgic3500.html

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<https://nchfp.uga.edu/how/dry.html>
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UME Grow It Eat It Dry It Activity List

Providing hands-on activities during workshops creates a more open and interactive learning experience for participants. Educators can choose any one of these activities to use as an ice breaker or to enhance a learning goal during the workshop. Consideration should be given to the participants' interests and time restrictions of the workshop.

1. Introductory Activity

Have each participant introduce themselves and ask: a) Why are you interested in learning how to dry foods? OR b) Can you share an experience you had with drying food? Regardless of experience levels with drying foods, reassure participants that this workshop is appropriate for all levels.

2. Confidence Scale

On a large piece of paper, draw a 4-point scale labeled as: 1- "not at all confident", 2- "a bit confident", 3- "confident", and 4- "very confident." Have participants write their initials on two different colored sticky notes. Pre-workshop, ask participants to put the first sticky note on one of the four points on the scale that best describes their current level of confidence in drying foods. Post-workshop, ask participants to put the second sticky note on the scale that best describes their level of confidence after attending the workshop. Discuss any changes pre- and post-workshop.

3. Samples of Dried Foods

Place a few dried foods such as apples, green beans, herbs, seeds or beef jerky in sealed separate mason jars to show what these foods look like when dried. Demonstrate shaking the jar to separate the pieces and check for moisture.

4. Drying Activity for Herbs

Demonstrate or use these as a hands-on experience during the workshop.

1. Create two separate variations of drying herbs: 1) microwave drying and 2) electric dehydrator drying. Ask participants to compare appearance, texture, aroma and taste of microwave dried herbs to dehydrator herbs and if there is a difference between the two.

2. Prepare a paper bag to room-dry herbs. Let participants prepare their own bag to take home.



5. Pretreatment/packing activity for drying fruit

Demonstrate or use this activity as a hands-on experience. Show specific pretreatments such as sulfur dip, ascorbic acid, fruit juice dips, syrup blanching or steam blanching etc.

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UME Grow It Eat It Dry It Educator's Checklist

Quantity	Kitchen Tools	Comment
1-3 rolls	Paper towels	
1-3	Paring knives	
1-2	Slotted spoon(s)	
1-2	Mixing spoon(s)	
1-3	Stainless steel bowl(s) of different sizes	
1-2	Ladle(s)	
1-2	One quart sauce pan	
1-2	Stock pot(s)	
1 set	Measuring spoons	
1 set	Measuring cups	
1-3	Cutting board(s)	
1	Colander/ steam blancher	
1-2	Electric food dehydrator (optional- depends on method)	
	Assortments of clear glass or plastic storage jars with lids	
1 box	Clear plastic zipper storage bags	
	Labels	
2	Permanent markers	
1	Timer	
1 bottle	Dishwashing soap	
1-2 bottles	Handwashing soap	



Additional Equipment/Items to Consider	Comments
Projection screen	
Projector	
Chart paper and easel	
Sticky notes -two different colors, (refer to the activity list in Appendix II)	
Name tents/tags	
Pens, pencils, and sharpies	
Laptop and laser pointer	
Extension cord	
Power strip	
Small brown paper bags and string (refer to the activity list in Appendix II)	For drying herbs
Baking sheets	For fruit leathers
Food processor	For fruit leathers
Food thermometer	For jerky

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First Name _____ Last Name Initial Only _____

Tell us about your drying BACKGROUND

1. Before today, have you attended a food preservation workshop in the past 12 months? **Choose the best response**
 - No
 - Yes
 - If you have attended a food preservation workshop/lecture/class before today, what organization sponsored that workshop/lecture/class? _____

 2. In the past 12 months have you dried... **Choose all that apply**
 - I haven't dried any food item in the past 12 months
 - Vegetables
 - Fruits
 - Jerky
 - Nuts/seeds
 - Spices
 - Herbs/edible flowers
 - Other _____

 3. What is the main benefit for you to dry foods? **Choose one response**
 - Nutrition
 - Be more environmentally sustainable with my food supply
 - Extend the shelf life of my foods
 - Other _____

 4. To the best of your knowledge, what is the best temperature to safely dry foods (**Fill in blank**) _____ °F
-

Please turn to the next page to continue

Directions: (choose the level of your agreement)	Strongly Disagree	Disagree	Agree	Strongly Agree	N/A
5. I intend to dry foods outside in Maryland.					
6. I intend to choose the best pretreatment to prepare foods for drying.					
7. I plan to wash produce with only water to prepare produce for drying.					
8. Every time I use my oven, I let it preheat to the recipe recommendation.					
9. I intend to follow a tested recipe to avoid case hardening.					
10. My family & friends expect me to cut food into uniform thickness when I cook.					
11. I intend to package food at room temperature.					
12. It is likely that I will put my dried foods in airtight containers.					
13. It is likely that I will store my dried foods in a cool dry place.					

Directions: (choose the level of your agreement)	Strongly Disagree	Disagree	Agree	Strongly Agree	Not making jerky
14. It is good to use a food thermometer when making meat jerky.					
15. I intend to make poultry jerky.					
16. It is harmful to reuse old jerky marinade for other cooking activities.					

Educator Fills Out: Educator: _____ Date: _____ Post-Survey Site Information: _____

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1. To the best of your knowledge, what is the best temperature to safely dry foods **(Fill in blank)** _____°F

Directions: (choose the level of your agreement)	Strongly Disagree	Disagree	Agree	Strongly Agree	N/A
2. I intend to dry foods outside in Maryland.					
3. I intend to choose the best pretreatment to prepare foods for drying.					
4. I plan to wash produce with only water to prepare produce for drying.					
5. Every time I use my oven, I let it preheat to the recipe recommendation.					
5. I intend to follow a tested recipe to avoid case hardening.					
6. My family & friends expect me to cut food into uniform thickness when I cook.					
7. I intend to package food at room temperature.					
8. It is likely that? I will put my dried foods in airtight containers.					
9. It is likely that I will store my dried foods in a cool dry place					
10. Based on the knowledge and skills I learned in this workshop, I have a greater understanding of what is needed to safely dry foods.					

Directions: (choose the level of your agreement)	Strongly Disagree	Disagree	Agree	Strongly Agree	Not making jerky
11. It is good to use a food thermometer when making meat jerky.					
12. I intend to make poultry jerky.					
13. It is harmful to reuse old jerky marinade for other cooking activities.					

Please turn to the next page to continue

Educator Fills Out: Educator: _____ Date: _____ Post-Survey Site Information: _____ “The

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14. What is your gender:

- Female
- Male
- Other

15. What is the highest level of school you have completed:

- Less than high school
- High School graduate/GED
- Some college
- College graduate
- Graduate degree (MS, PhD, JD)
- Don't know/refused

16. What is your ethnicity?

- Hispanic/Latino
- Not Hispanic/Latino

17. Please indicate your race:

- Black/African-American
- White/Caucasian
- Asian (includes India & Middle East)
- American Indian/Alaska Native
- Other-please specify _____
- Don't know/refused

17.a. I would like to be part of the brief follow up survey.

- No, Thank you
- Yes, Email _____

18. Please indicate your age range:

- Under 25
- 25-34
- 34-44
- 45-54
- 55-64
- 65-74
- 75+
- don't know/refused

19. Please indicate one category which best matches your household's total income;

- Below \$15,000
- \$15,000-\$24,999
- \$25,000-\$49,999
- \$50,000-\$74,999
- \$75,000+
- Don't know/refused

Teaching Evaluation:

1. Please scan our Unique FCS QR Code (below),



Unique FCS QR Code



How a QR Code Works

2. or wait to receive a link or type (<http://tinyurl.com/hx9w42n>) to take our brief Qualtric survey to let us know about your experience with us today.

Please turn to the next page to continue

Educator Fills Out: Educator: _____ Date: _____ Post-Survey Site Information: _____

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Follow up Evaluation

1. In the past 6 months have you dried? **Choose all that apply**

- I haven't dried any food item in the past 12 months
- Vegetables
- Fruits
- Jerky
- Nuts/seeds
- Spices
- Herbs/edible flowers
- Other _____

2 What is the main benefit for you to dry foods? **Choose one response**

- Nutrition
- Be more environmentally sustainable with my food supply
- Extend the shelf life of my foods
- Other _____

3. To the best of your knowledge, what is the best temperature to safely dry foods? **(Fill in blank)** _____ °F

Please turn to the next page to continue

Educator Fills Out: Educator: _____ Date: _____ Follow-up-Survey Site Information: _____

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First Name _____ Last Name Initial Only _____ Title of the Workshop: _____

Directions: (choose the level of your agreement)	Strongly Disagree	Disagree	Agree	Strongly Agree	N/A
I Currently:					
4. Dry foods outside in Maryland.					
5. Use the best pretreatment to prepare foods for drying.					
6. Wash produce with only water to prepare produce for drying.					
7. Let my oven/dehydrator preheat to the recipe recommendation every time I cook.					
5. Follow a tested-recipe to avoid case hardening.					
8. My family & friends expects me to cut food into uniform thickness when I cook.					
9. Package food at room temperature.					
10. Put my dried foods in airtight containers.					
11. Store my dried foods in a cool dry place.					

Directions: (choose the level of your agreement)	Strongly Disagree	Disagree	Agree	Strongly Agree	Not making jerky
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14. It is harmful to reuse old jerky marinade for other cooking activities.					

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 Allegany (301) 724-3320	 Charles (301) 934-5403	 Prince George's (301) 868-8781
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 Cecil (410) 996-5280	 Montgomery (301) 590-9638	 State Office (410) 531-5557

Legend

-  Locations with Grow It • Eat It programs
-  Locations with Grow It • Eat It • Preserve It Programs

This list **does not** include youth food preservation through 4-H. Please contact your local Extension office to learn more.

FIND EVENTS AND SERVICES

UME FCS Educators coordinate various events and services throughout the year.

To access information about upcoming events go to extension.umd.edu/foodpreservation Event Calendar

DO YOU HAVE GARDENING QUESTIONS?

We have answers! Visit our website extension.umd.edu/hgic



- Click on LEARN to browse our content
- Click on GET HELP to browse answers to specific problems.
- Send your question directly to our Certified Professional Horticulturists for an answer via email.

extension.umd.edu/learn/ask-gardening

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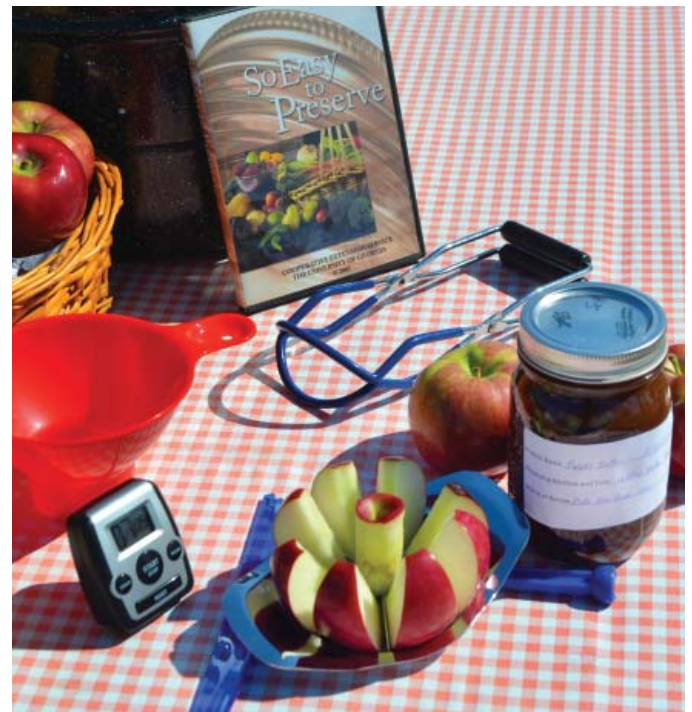
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 GROW IT • EAT IT
PRESERVE IT

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GROW IT • EAT IT

UNIVERSITY OF MARYLAND EXTENSION (UME) MISSION

Our educational programs and problem-solving assistance are available to citizens and are based on the research and experience of land grant universities such as the University of Maryland, College Park.

OUR HISTORY

Since the 1900's, Family & Consumer Sciences (FCS) educators have taught how to safely preserve food, whether it was canning, drying, or freezing using USDA home food preservation guidelines.

OUR VISION

UME Master Gardener Volunteers (MGVs) educate residents how to grow food in home, community, and school gardens. MGVs help thousands of individual groups each year start and improve food gardens.

OUR PARTNERSHIP

MGVs teach people how to grow produce through the Grow It Eat It (GIEI) program, and FCS educators teach people how to safely preserve their harvest through the Grow It Eat It Preserve It program (GIEIPI).

FCS EDUCATORS CAN ADVISE YOU

Canning

We teach others how to safely can:

- Jams, jellies, and butters
- Pickled & fermented products
- High acid foods (peaches)
- Tomatoes
- Low acid foods (green beans)

Freezing

We teach evidence-based information on safely freezing foods at home.

Dehydration

We teach evidence-based information on safely drying foods at home.



Source: <https://nchfp.uga.edu>

FREQUENTLY ASKED QUESTIONS



Are family, cookbooks, and Internet recipes safe?

Contact your FCS educator to find safe food preservation resources and recipes, such as the National Center for Home Food Preservation and the USDA Complete Guide to Home Canning.



Can I make changes to the recipe?

No, recipes should not be changed. Recipes will ensure consistency, quality, and safety.



Are all tomatoes okay to can?

Select only disease-free, preferably vine-ripened, firm tomatoes for canning. Green tomatoes are more acidic than ripened tomatoes and can be canned safely with any of the following recommendations.

Caution: Do not can tomatoes from dead or frost-killed vines.



Is it okay to process two layers of jars in a canner at one time?

Yes, two layers can be processed at one time, in either the boiling water bath or pressure canner. Place a small wire rack between the layers so water or steam will circulate around each jar.



How much is it to have my dial checked?

Free, contact your FCS educator to make an appointment. Remember, it is best to get the dial check yearly.

Find your UME FCS Educator (pg 4).