

UCCE Master Food Preservers of Amador/Calaveras County

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Make & Take Dill Pickles

Fundamentals

Food Safety Tips

- Wash hands and forearms frequently: after using toilet, after changing baby's soiled diaper, after touching animals, before handling food, and after touching raw meat, fish and poultry.
- 20-second rule: wash hands for 20-seconds.
- Use disposable gloves if you have a cut or sore on your hands.

When in doubt - throw it out

- DANGER Never taste food that looks or smells strange to see if it can still be used. Just discard it.
- Generally foods that contain bacteria will look, smell, and taste normal.
- Generally speaking most bacteria that cause food borne illness are odorless, colorless, and tasteless.

General Cleaning Tips

- Run sponges and pot scrubbers through the dishwasher frequently. Change dish cloths daily.
- Mop up spilled juices from meat, fish or poultry immediately using a disposable paper towel.
- Use a disinfecting solution consisting of 1 ½ teaspoon of chlorine bleach to 1 pint of water. Dispense with a spray bottle to disinfect countertops, cutting surfaces, etc. Make a new solution every week.
- AVOID CROSS CONTAMINATION. ALWAYS wash your hands, knives, cutting boards, and food preparation surfaces well with soapy water before and after any contact with raw meat, fish, or poultry.
- Rinse all fresh fruits and vegetables well under running water before preparing or eating them. Do not soak.

Use the Right Equipment

- Use standard canning jars, lids, and rings.
- Cook the product in a deep, non-reactive kettle, stainless steel, enameled, or glass.
- Use a reputable recipe for the best results; they have been tested for quality, flavor, and *safety*.

Getting Ready: Be Prepared!

- Read the recipe thoroughly before you begin. Measure out all ingredients and have all needed utensils at hand. Make sure your vinegar is 5% acidity (read the label).
- Do not change the quantities of produce nor vinegar in any recipe, unless specified in a tested recipe. (If you cut a recipe in half, do the math right.)
- Check the jar for flaws. Wash jars, lids, and rings in hot soapy water and rinse well. Place clean jars into the canner to heat.

Fill and Seal Jars Properly

- Fill hot jars using either a *Raw (Cold) Pack or Hot-Pack*.
 - The raw, or cold-pack, method means packing the cold or raw food into a hot jar, then adding boiling liquid brine. The jars are then processed in a boiling-water canner. Fruits such as apricots, berries, cherries, grapes, plums, rhubarb and tomatoes are best if packed raw. Most vegetables can be packed raw (cold-packed) if processed in the pressure canner.



- The hot-pack method requires a short pre-cooking period (boiling or heating in some manner). Then the boiling-hot product is packed into clean, hot jars and processed immediately. The hot-pack method is more satisfactory for some vegetables and fruits and it is recommended for peaches, pears and pineapple. Benefits include a tighter pack and, because food expels air when heated, less float.
- Use the method suggested in your tested recipe for best flavor and texture.
- Leave the headspace specified in the recipe.
- Wipe the rim with a clean, damp, paper towel.
- Place lids and rings on jars. Tighten the rings only fingertip tight.

Processing

- Process jars of pickled products using either the boiling water or atmospheric steam canning method. This ensures that any foodborne pathogens in the jar are destroyed.
- The USDA does not recommend open kettle canning, which involves heating the food to boiling, pouring it into the jars, applying lids, and allowing the heat of the jar to cause the lid to seal, without further processing.
- Paraffin, as a sealing agent, is not recommended. No processing is involved and the wax can shrink during cold weather, exposing the food.
- Atmospheric Steam Canner Processing: Use a research tested recipe and processing time developed for a boiling water canner when using an atmospheric steam canner. An atmospheric steam canner may be used with recipes approved for half-pint, pint, or quart jars. Processing time must be limited to 45 minutes or less, including any modification for elevation.

Adjusting for Altitude

- All recipes are developed using sea level as the criteria for processing times. At sea level, water boils at 212°F. At higher altitudes water will boil at a lower degree.
- Adjustments have to be made to ensure safe canning. If you are at a
 higher altitude and your recipe does not specific processing times for
 different elevations, increase the processing times according to the
 Altitude Chart.

Altitude Chart	
Altitude in	Increase
feet	processing time
1,000 - 3,000	5 minutes
3,001 – 6,000	10 minutes
Above 6,001	15 minutes

Hot pack Raw foods are boiled 3 to 5 minutes in a

saucepan or blancher, then poured into jars.

Pickles

A pickle is any fruit or vegetable preserved in vinegar or brine.

- **Brine pickles** are products fermented in salt brine. Regular dill pickles and sauerkraut are fermented and cured for about 3 weeks. They may be canned or stored in the refrigerator for 4-6 months.
- **Refrigerator dills** are not heat processed and must be stored in the refrigerator for 3 months.
- **Fresh-pack or quick-process pickles** are not fermented; some are brined several hours or overnight, then drained and covered with vinegar and seasonings.
- **Fruit pickles** are fruits that are pickled in spicy, sweet-sour syrup.
- Relishes are prepared using chopped products and cooked in a spicy vinegar solution.

Be sure to remove and discard a 1/16-inch slice from the blossom end of fresh cucumbers. Blossoms may contain an enzyme which causes excessive softening of pickles.

Salt

- Salts are not interchangeable.
- Use canning or pickling salt. Table salt contains anti-caking ingredients which can cloud the brine. Kosher salt may also contain anti-caking ingredients so check the label.

• Since flake salt varies in density (grain size), it is not recommended for making pickled and fermented foods. (If you must substitute Kosher salt, it is lighter than canning salt so you need to use the same amount of salt by weight, not volume.

• In our class experiment, $\frac{1}{2}$ cup pickling salt = 1 cup plus 2 Tablespoons Kosher salt.)

Vinegar

The level of acidity in a pickled product is as important to its safety as it is to taste and texture. When pickling, always use high-quality commercial vinegars with 5% acidity or higher (also listed as 50-grain). The acidity should be listed on the label; if not, assume it is not 5%.

- Do not alter vinegar, food, or water proportions in a recipe or use a vinegar with unknown acidity. Doing so may alter its preservative effect and undermine the safety of the product.
- Use only recipes with tested proportions of ingredients.
- White distilled and cider vinegars of 5% acidity are recommended. White vinegar is usually preferred when light color is desirable.
- Do not use homemade vinegar as the acidity is unknown.

Water

- Soft water makes the best brine for pickles
- Hard water may cause cloudiness in the brine and discolor pickles. If only hard water is available, boil and let site for 24 hours. Skim off scum and use water from the top of the container without disturbing the sediment.
- Fluoridated or chlorinated water may contribute to soft pickles or cloudy brine; bottled distilled water is always a good choice.

Pickles with Reduced Salt Content

- When making fresh-pack pickles, cucumbers are acidified quickly with vinegar. Use only tested recipes
 formulated to produce the proper acidity. While these pickles may be prepared safely with reduced or no salt,
 their quality may be noticeably lower. Both texture and flavor may be slightly, but noticeably, different than
 expected.
- You may wish to make small quantities first to determine if you like them.

Sugars

- White granulated and brown sugars are most often used.
- Corn syrup and honey, unless called for in reliable recipes, may produce undesirable flavors.

Spices

- Use fresh whole spices for the best quality and flavor in pickles. Powdered spices may cause the product to darken and become cloudy.
- Pickles will darken less if you tie whole spices loosely in a clean white cloth or cheesecloth bag and then remove the bag from the product before packing the jars.

Firming Agents

If good quality ingredients are used in pickling and up-to-date methods are followed, lime and alum are not needed for crisp pickles. If you choose to use firming agents, alum may be safely used to firm *fermented* cucumbers. Alum does not have an effect on quick-processes pickles.

- When pickling cucumbers, cut 1/16-inch slice off the blossom end and discard because enzymes in the blossom end causes soft pickles.
- Soaking cucumber in **ice** water for 4 to 5 hours prior to pickling is a safe method for making crisp pickles.
- The calcium in pickling lime does improve pickle firmness. Food-grade lime may be used as a lime-water solution for soaking fresh cucumbers 12 to 24 hours before pickling them. However, EXCESS LIME ABSORBED BY THE CUCUMBERS MUST BE REMOVED TO MAKE SAFE PICKLES. To remove excess lime, drain the lime-water solution, rinse and then re-soak the cucumbers in fresh water for 1 hour. Repeat the rinsing and soaking steps two more times.
- Calcium chloride for pickling is often sold where you buy canning supplies. It is usually added directly to the jars of pickles. Follow the instructions on the package.

Other Considerations:

• Yellow crystals on pickled asparagus: Sometimes pickled asparagus will form yellow crystals. Do not panic!!! When asparagus is heated with acid (such as vinegar), rutin is drawn out of the asparagus plant. It then becomes insoluble in the vinegar and crystallizes on the exterior of the asparagus stems. It is safe to it; it is only a cosmetic concern. In commercially canned asparagus, a small amount of tin salts are added to the pickling solution, which prevents the rutin from crystallizing.

• *Blue garlic*: Garlic contains anthocyanins, water- soluble pigments that can turn blue or purple in acidic environments like vinegar or pickling brine - the garlic is still safe to eat. Garlic should be fresh and at the peak of maturity. Immature or sprouting garlic can turn blue in the jar.

For Best Results ...

- Store fresh-pack/quick pickles for 4-6 weeks in a cool, dry, dark place to allow the flavors to mellow and blend.
- Marinate **refrigerator** pickles (they aren't processed in heat) in the refrigerator for at least two weeks before serving and use within 3 months.

Preventing Spoilage

Pickle products are subject to spoilage from microorganisms, particularly yeasts and molds, as well as enzymes that may affect flavor, color, and texture. Processing the pickles in a boiling-water or steam canner will prevent these problems. Standard canning jars and self-sealing lids are recommended. Processing times and procedures will vary according to food acidity and the size of food pieces.

Resources

National Center for Home Food Preservation: http://nchfp.uga.edu/
Complete Guide to Home Canning. 2015. http://nchfp.uga.edu//publications/publications_usda.html
So Easy to Preserve, Sixth Edition. 2016. Bulletin 989. Cooperative Extension/University of Georgia, Athens

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Recipes

Quick Fresh Dill Pickles

Yield: 7-9 wide-mouth pints or 4-5 wide mouth quarts

8 pounds of 3 to 5-inch pickling cucumbers

2 gallons water

1 ½ cups canning salt (divided)

1 ½ quarts vinegar (5%)

1/4 cup sugar

2 quarts water

2 tablespoons whole mixed pickling spice about 3 tablespoons whole mustard seed

about 14 heads of fresh dill or 5 tablespoons dill seed

- 1. Wash and rinse canning jars, lids and rings; keep jars hot until ready to use.
- 2. Wash cucumbers. Cut 1/16-inch slice off blossom end and discard. Leave ¼-inch of stem attached. Dissolve ¾ cup salt in 2 gallons of water. Pour over cucumbers and let stand for 12 hours. Drain.
- 3. Combine vinegar, ½ cup salt, sugar and 2 quarts water. Add mixed pickling spices tied in a clean white cloth. Heat to boiling.
- 4. Fill jars with pickles. Add 1 teaspoon mustard seed and 1 ½ heads fresh dill (or 1 ½ teaspoons dill seed) per pint jar. Cover with boiling pickling solution, leaving ½-inch headspace. Remove air bubbles and adjust headspace if necessary, by adding hot solution. Wipe rims with a dampened clean paper towel; adjust two-piece metal canning lids.
- 5. Process in a boiling water or steam canner:
 - a. Pints: 10 minutes at 0-1,000 feet, 15 minutes at 1,001-3,000 feet, 20 minutes at 3,001-6,000 feet, 25 minutes above 6,000 feet.
 - b. Quarts: 15 minutes at 0-1,000 feet, 20 minutes at 1,001-3,000 feet, 25 minutes at 3,001 to 6,000 feet, 30 minutes above 6,000 feet.
- 6. For boiling water canner, remove lid and wait 5 minutes; for steam canner, wait 3 minutes before removing lid
- 7. Remove jars from canner. Let cool, undisturbed, 12-24 hours and check for seals. Remove rings, clean and label jars. Store sealed jars in a cool, dry, dark location.

Source: So Easy to Preserve, Cooperative Extension, The University of Georgia, 2015

Sweet Dill Pickles

1 quart jar dill pickles ¼ cup distilled white vinegar ½ tablespoon pickling spice 2 cups white sugar, divided ¼ cup water

- 1. Drain pickles and slice into ¼-inch pieces. Place in a bowl with 1 cup sugar. Stir, cover, and allow to stand at room temperature 6 to 8 hours, or overnight.
- 2. In a small saucepan, mix the remaining sugar, vinegar, water and pickling spice. Bring to a boil. Pour over the pickles. Allow the mixture to stand at room temperature 6 to 8 hours, or overnight.
- 3. Transfer the pickles to sterile jars and store in refrigerator. Serve chilled.

Source: allrecipes.com

8 ½ cups sliced trimmed

Refrigerated Dill Slices

6 tablespoons canning salt 1 1/4 teaspoons whole black 2 tablespoons pickling spice peppercorns

pickling cucumbers 2 tablespoons pickling spice peppercorns 2 cups white vinegar 7 ½ teaspoons dill seeds 5 cloves garlic, halved

2 cups water 5 teaspoons mustard seeds (optional)

- 1. Place cucumber slices in a large glass or stainless steel bowl; set aside.
- 2. In a medium stainless steel saucepan, combine vinegar, water, salt, sugar and pickling spice. Bring to boil over medium-high heat, stirring to dissolve salt and sugar. Reduce heat, cover and boil gently for 10 minutes.
- 3. Pour pickling liquid over cucumber slices. Cover with waxed paper and set aside until cooled to room temperature, about 30 minutes.

Yield: about 5 pint jars

4. In each pint jar, place 1 ½ teaspoon dill seeds, 1 teaspoon mustard seeds, ¼ teaspoon peppercorns and two garlic clove halves, if using. Add cucumber slices to within a generous ½-inch headspace of top of jar. Ladle pickling liquid into jar to cover cucumbers, leaving ½-inch headspace. Apply lids.

5. For best results, allow cucumbers to marinate in refrigerator for at least 2 weeks and use within 3 months.

Source: Ball Complete Book of Home Preserving, 2015

Kosher DillsYield: 6-7 pints

30-36 cucumbers (3- to 4-inches long)

3 cups vinegar (5%)

3 cups water

6 tablespoons canning salt

fresh or dried dill

garlic

mustard seed

- 1. Wash the cucumbers. Slice 1/16-inch from blossom end and discard. Leave 1/4-inch of stem attached.
- 2. Make a brine of the vinegar, water and salt. Bring to a boil.
- 3. Place a generous layer of dill, ½ to 1 clove of garlic (sliced) and ½ teaspoon of mustard seed in bottom of each pint jar. Pack the cucumbers into the hot jars. When the jars are half-filled with cucumbers add more dill and complete the packing of the jars.
- 4. Fill the jars ½-inch from top with the boiling brine. Remove air bubbles. Wipe jar rims. Adjust lids.
- 5. Process in a boiling water or steam canner 10 minutes at 0-1,000 feet, 15 minutes at 1,001-3,000 feet, 20 minutes at 3,001-6,000 feet, 25 minutes above 6,000 feet. Pickles will shrivel after processing. They will later plump in sealed jars.

Source: So Easy to Preserve, Cooperative Extension, The University of Georgia, 2015

Fermented Dill Pickles

Yield: 1 gallon

4 pounds of 4-inch pickling cucumbers
2 tablespoons dill seed or 5 heads fresh dill
2 cloves garlic (optional)
2 tablespoons whole mixed pickling spices (optional)
1/2 cup canning salt
1/4 cup vinegar (5%)

2 dried red peppers (optional)

8 cups water

- 1. Wash cucumbers. Cut 1/16-inch slice off blossom end and discard. Leave ¼-inch of stem attached.
- 2. Place half of dill and spices on bottom of a clean, suitable container. Add cucumbers, remaining dill and one or more of the optional spices.
- 3. Dissolve salt in vinegar and water. Pour over cucumbers. Add suitable weight. *Note: a small plastic zip bag with a little water can be used as a weight.*)
- 4. Store where temperature is between 70°F and 75°F for about 3 to 4 weeks while fermenting. Temperatures of 55°F to 65°F are acceptable, but fermentation will take 5 to 6 weeks. Avoid temperatures above 80°F, because pickles will become soft.
- 5. Fermenting pickles cure slowly. Check the container several times a week and promptly remove surface scum or mold. CAUTION: If the pickles become soft, slimy or develop a disagreeable odor, discard them.
- 6. Fully fermented pickles may be stored in the original container for about 4 to 6 months, provided they are refrigerated and surface scum and molds are removed regularly. Canning fully fermented pickles is a better way to store them.
- 7. To process fermented dill pickles, pour the brine into a pan. Heat slowly to a boil and simmer 5 minutes. Filter brine through paper coffee filters to reduce cloudiness, if desired. Fill hot jars with pickles, leaving ½-inch headspace. Fill jars to ½-inch from top with hot brine. Remove air bubbles. Wipe jar rims. Adjust lids.
- 8. Process in a boiling water or steam canner:
 - a. Pints: 10 minutes at 0-1,000 feet, 15 minutes at 1,001-3,000 feet, 20 minutes at 3,001-6,000 feet, 25 minutes above 6,000 feet.
 - b. Quarts: 15 minutes at 0-1,000 feet, 20 minutes at 1,001-3,000 feet, 25 minutes at 3,001-6,000 feet, 30 minutes above 6,000 feet.

Source: So Easy to Preserve, Cooperative Extension, The University of Georgia, 2015

British Bread and Butter Pickles

Yield: about 5 pints



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10 cups sliced trimmed pickling cucumbers4 medium onions, thinly sliced

½ cup pickling or canning salt

3 cups cider vinegar (5%) 2 cups brown sugar 2 tablespoons mustard seeds 1 teaspoon celery seeds 1 teaspoon ground turmeric 1 teaspoon ground ginger

- 1. In a glass or stainless-steel bowl, combine cucumbers, onions and salt. Mix well, cover with cold water and let stand at room temperature for 2 hours. Transfer to a colander placed over a sink, rinse with cool running water and drain thoroughly.
- 2. Wash and rinse canning jars, lids and rings; keep jars hot until ready to use.
- 3. In a large stainless steel pan, combine vinegar, brown sugar, mustard seeds, celery seeds, turmeric, and ground ginger. Bring to a boil over medium-high heat, stirring to dissolve sugar. Stir in vegetables and return to a boil.
- 4. Pack vegetables into hot jars to within a generous ½-inch of top of jar. Ladle hot pickling liquid into jar to cover vegetables, leaving ½-inch headspace. Remove air bubbles and adjust headspace, if necessary, by adding hot pickling liquid. Wipe rims with a dampened clean paper towel; adjust two-piece metal canning lids.
- 5. Process in a boiling water or atmospheric steam canner for 10 minutes between 0-1,000 feet, 15 minutes between 1,001–3,000 feet, 20 minutes between 3,001–6,000 feet, 25 minutes between 6,001–8,000 feet, and 30 minutes between 8,001–10,000 feet.
- 6. For boiling water canner, remove lid and wait 5 minutes; for steam canner, wait 3 minutes before removing lid.
- 7. Remove jars from canner. Let cool, undisturbed, 12-24 hours and check for seals. Remove rings, clean and label jars. Store sealed jars in a cool, dry, dark location.

Source: Ball Blue Book Guide to Preserving, 2012

Dill Pickle Relish

Yield: about 7 pints

14 cups chopped pickling cucumbers (about 5 pounds)
2 cups chopped red bell pepper
5 ½ cups cider vinegar (5%)

3 teaspoons dill seed 6 cloves garlic, minced 5 tablespoons canning salt

- 1. Wash cucumbers and peppers thoroughly under running water. After washing, slice a thin piece from both the stem and blossom ends of the cucumbers and discard.
- 2. Cut cucumbers into about 1-inch pieces and then chop in a food processor (using about 3 to 4 short pulses on 'chop') to yield ¼-inch or smaller pieces. Measure 14 cups of the chopped cucumber.
- 3. After washing the peppers, remove the stems, seeds and white membranes. Cut into about 1-inxh pieces or slices and then chop in a food processor (using about 3 or 4 pulses on 'chop') to yield about ¹/₄-inch or slightly smaller pieces. Measure 2 cups of the chopped pepper.
- 4. Combine chopped cucumbers and bell peppers and set aside.
- 5. In a large stockpot, stir together the cider vinegar, dill seed, minced garlic and pickling salt, until the salt dissolves.
- 6. Add chopped vegetables and bring to a boil. Reduce heat and simmer 10 minutes.
- 7. Fill hot relish into clean, hot pint jars leaving ½-inch headspace. Remove air bubbles and adjust headspace if needed. Make sure liquid covers the top of the food pieces. Wipe rims of jars with a dampened, clean paper towel.
- 8. Process in a boiling water or steam canner 15 minutes at 0-1,000 feet, 20 minutes at 1,001-3,000 feet, 25 minutes at 3,001-6,000 feet, 30 minutes above 6,000 feet.

Source: So Easy to Preserve, Cooperative Extension, The University of Georgia, 2015

Sweet Gherkin Pickles

Yield: 6-7 pints

7 pounds cucumbers (1½ inch or less)

½ cup canning salt

8 cups sugar

6 cups vinegar (5%)

3/4 teaspoons turmeric

2 cinnamon sticks

½ teaspoon fennel (optional)

2 teaspoons whole mixed

pickling spice

1. First day

- a. *Morning:* Wash cucumbers. Cut 1/16-inch slice off blossom end and discard, but leave ¼-inch of stem attached. Place cucumbers in large container and cover with boiling water.
- b. Afternoon (6 to 8 hours later): Drain, add ¼ cup salt and cover with fresh boiling water.
- 2. Second day
 - a. Afternoon: Drain, add ¼ cup salt and cover with fresh boiling water.
- 3. Third day
 - a. *Morning*: Drain and prick cucumbers with a table fork. Combine and bring to boil 3 cups vinegar, 3 cups sugar, and all dry spices (not vanilla); pour over cucumbers.
 - b. *Afternoon* (6 to 8 hours later): Drain Syrup into pan, add 2 cups each of sugar and vinegar, heat to boiling and pour over pickles.
- 4. Fourth day
 - a. *Morning:* Drain syrup into pan, add 2 cups sugar and 1 cup vinegar, heat to boiling and pour over pickles.
 - b. Afternoon (6 to 8 hours later):
 - i. Wash and rinse canning jars, lids and rings (sterilize jars for altitudes less than 1001 feet); keep jars hot until ready to use.
 - ii. Drain syrup into pan, add 1 cup sugar and vanilla, heat to boiling.
 - iii. Fill pint jars with pickles and cover with hot syrup, leaving ½-inch headspace.
 - iv. Process in a boiling water or steam canner 5 minutes at 0-1,000 feet, 10 minutes at 1,001-6,000 feet, 15 minutes above 6,000 feet.

Source: So Easy to Preserve, Cooperative Extension, The University of Georgia, 2015

Zucchini PicklesYield: about 8 pints

5 pounds medium zucchini cut into ¼-inch-thick slices
2 pounds mild white onions, thinly sliced
2 tablespoons mustard seeds
1 tablespoon each: celery seeds and ground turmeric
1 teaspoons ground ginger
2 teaspoons ground ginger
3 cloves garlic, minced

- 1. Wash and rinse canning jars, lids and rings; keep jars hot until ready to use.
- 2. Place zucchini, onions, and salt in a large kettle; cover with ice water and let stand for 1 to 2 hours.
- 3. Drain, rinse well and drain again.
- 4. In large kettle mix vinegar, sugar, mustard seeds, celery seeds, turmeric, ginger, and garlic. Bring to a boil over high heat, stirring to dissolve sugar. Boil for 2 to 3 minutes.
- 5. Stir in zucchini mixture, return to a boil and boil for 2 more minutes.
- 6. Pack hot mixture into hot pint jars, leaving ½-inch headspace. Wipe rims with a dampened clean paper towel; adjust two-piece metal canning lids.
- 7. Process in a boiling water or steam canner for 10 minutes at 0-1,000 feet elevation, 15 minutes at 1,001-3,000 feet, 20 minutes at 3,001-6,000 feet, 25 minutes at 6,001-8,000 feet, and 30 minutes at 8,001-10,000 feet.
- 8. For boiling water canner, remove lid and wait 5 minutes; for steam canner, wait 3 minutes before removing lid.
- 9. Remove jars from canner. Let cool, undisturbed, 12-24 hours and check for seals. Remove rings, clean and label jars. Store sealed jars in a cool, dry, dark location.

Source: Pickles, Relishes and Chutneys, UC Publication #4080