STRETCHLEARN · WORKBOOK

Canning & Preserving — Workbook

This workbook accompanies the Canning & Preserving course and gives you a practical space to plan batches, document your outcomes, and build a safe, repeatable preserving practice. Complete each section alongside the corresponding module — the exercises and worksheets are designed to be used at the kitchen counter, not just on screen. By the final section you will have a tested recipe log, a pantry inventory, and a seasonal calendar personalised to your household.

Foundations of Safe Canning

Establish your pH knowledge, equipment checklist, and recipe-validation habits before your first batch.

Exercise: pH Safety Sorting Exercise

Without looking at notes, sort each food below into HIGH-ACID (water bath safe) or LOW-ACID (pressure can required). Then check your answers against the NCHFP guidelines and note any surprises.

• List 5 foods you commonly eat and assign each to high-acid or low-acid. Record your confidence level (certain / unsure) for each.

• Look up the actual pH of each food on the NCHFP site. Where were you wrong? What is the closest food to 4.6 you found?

• Tomatoes are borderline. Write in your own words why bottled lemon juice is required and what happens if you skip it.

• Name one food you assumed was safe for water bath that is actually low-acid. How would you process it correctly?

Worksheet: Equipment Inspection Checklist and Inventory

Before your first canning session, inspect every piece of equipment and record its condition. Return to this sheet after each season to decide what to replace.

Canner type (water bath / dial pressure / weighted pressure)

Canner brand and model

Canner condition (rack intact, lid seals, no corrosion)

Dial gauge last tested (date / location / reading vs certified)

Gasket condition (crack-free, flexible, estimated age)

Number of clean jars by size (half-pint / pint / quart)

Number of new unused lids in stock

Jar lifter: present and functional (yes/no)

Canning funnel: present (yes/no)

Bubble remover / headspace tool: present (yes/no)

Accurate timer: present (yes/no)

Instant-read thermometer: present and calibrated (yes/no)

Items to purchase before first batch

Checklist: Recipe Validation Habit Checklist

[ ] Locate the original source of my recipe (NCHFP URL, Ball Blue Book page number, or USDA guide section)
[ ] Confirm the recipe has not been modified from the tested version (acid additions, vegetable ratios, jar size match)
[ ] Look up my altitude and record the required processing time or pressure adjustment
[ ] Verify my vinegar is labeled 5% acidity
[ ] Write the recipe source and any altitude adjustments on the batch label before starting

Water Bath Canning in Practice

Document your water bath batches in real time and build a personal troubleshooting reference from your own results.

Worksheet: Water Bath Batch Record

Fill in one row per batch processed. Complete this while working — not from memory afterward. Over time this becomes your most valuable reference for repeating successes and diagnosing problems.
Date processed

Product name

Recipe source and page or URL

Variety / origin of produce (e.g. Concord grapes, U-pick August 12)

Pack method (hot pack / raw pack)

Jar size used

Number of jars filled

Headspace measured (cm)

Processing time used (minutes)

Altitude adjustment applied (yes/no, amount)

Number of jars sealed successfully (checked at 24h)

Number of jars that failed to seal (disposition: reprocessed / refrigerated)

Colour and texture rating at seal check (1–5)

Tasting notes at opening (opened date, flavour, texture, set if jam)

Would you make this batch again? Changes for next time?

Exercise: Pickle Brine Calculation Practice

Use the NCHFP dill pickle recipe as your base. Work through the scaling calculations below before making your first pickle batch.

• The NCHFP classic dill pickle recipe makes approximately 7 quarts. You want to make 3 quarts. Scale every ingredient (cucumbers, water, vinegar, salt, dill) to 3/7 of the original and record your scaled amounts.

• Your vinegar bottle says 5% acidity. You find an unlabeled bottle in the pantry. Write two sentences explaining why you cannot use the unlabeled bottle and what you would do with it.

• Calculate how many cucumbers by weight you need for your 3-quart batch, given the recipe calls for 4 kg for 7 quarts.

• You want to add extra garlic for flavour. Which modification is safe: adding 2 extra garlic cloves per jar, or adding extra water to the brine? Explain why.

Checklist: Pre-Processing Safety Run-Through

[ ] Jars inspected for chips and cracks on the rim — all damaged jars removed
[ ] Lids are new and unused (not previously sealed)
[ ] Canner rack is in place and canner has correct water level
[ ] Product is held at "e82 °C (180 °F) for hot pack, or prepared fresh for raw pack
[ ] Headspace measured with tool — not estimated by eye
[ ] Jar rims wiped with a clean damp cloth after filling
[ ] Bands tightened to fingertip-tight only
[ ] Timer set to the correct time for my altitude before closing canner lid
[ ] Lid removal and 5-minute rest before removing jars noted on timer

Exercise: Seal Check and Troubleshooting Journal

After every batch, record the seal results and any problems observed. Use this log to identify patterns across batches.

• After your first batch: how many jars sealed? Tap each jar and describe the sound difference between

sealed and unsealed jars in your own words.

• If any jars failed to seal, list the three most likely causes based on your specific process today. What will you change next time?

• Open a jar at 2 weeks and at 6 weeks. Compare colour, texture, and flavour. What changed and is that acceptable?

Pressure Canning and Low-Acid Foods

Build a safe pressure canning practice through structured pre-session checklists, batch records, and a spoilage identification reference you create from the course material.

Checklist: Pressure Canner Pre-Session Safety Checklist

[ ] Dial gauge calibrated within the past 12 months (or weighted gauge confirmed intact with no cracks or deformation)
[ ] Gasket is flexible, uncracked, and correctly seated in lid
[ ] Overpressure safety plug is present and not deformed
[ ] Vent pipe is clear (can see light through it when held up)
[ ] Rack is in canner; 2–3 L of hot water added
[ ] Recipe selected is from NCHFP or USDA Complete Guide — not from a blog or magazine
[ ] Altitude adjustment for pressure setting confirmed and written down
[ ] Full 10-minute vent step planned before pressurisation
[ ] Timer and thermometer accessible before closing canner lid
[ ] Children and pets are out of the kitchen during pressurisation

Worksheet: Pressure Canning Batch Record

Complete one row per pressure canning session. The venting time and pressure maintenance columns are critical for safety documentation — do not skip them.

Date processed

Product name

Recipe source

Jar size and pack method

Number of jars loaded

Water added to canner (litres)

Vent start time

Vent end time (must be 10 min after steam was steady)

Target pressure (psi)

Actual pressure maintained (stable / fluctuated — note range)

Processing start time (after target pressure reached)

Processing end time

Processing duration (minutes — must equal or exceed recipe time)

Depressurisation method (natural — never forced)

Jars sealed at 24h (count)

Any problems or deviations noted

Exercise: Spoilage Identification Reference Card

Using the course lesson on spoilage recognition, build your own personal reference card you can post in your pantry.

• List every visual sign of spoilage you would check BEFORE opening a stored jar. Be specific — what does a bulging lid feel like versus a properly concave lid?

• Write the complete safe disposal protocol for a suspect jar of home-canned green beans in your own words, as if explaining to someone who has never canned.

• Why can you not rely on smell to confirm that a low-acid product is safe? What does this mean for how you treat any questionable jar?

• Describe the USDA boiling recommendation for low-acid products: when to apply it, how long, and what it does (and does not) protect against.

Jams, Jellies, and the Seasonal Preserving Calendar

Test your gel-point instincts, document your jam and jelly batches, and produce a personalised seasonal calendar and pantry plan for the next 12 months.

Exercise: Pectin and Gel-Point Mastery Drill

Work through these questions before making your first jam. Return to them after your first batch to see if your real-world experience matches your predictions.

• Choose a fruit with low natural pectin (e.g. strawberries). Write down what will happen if you: (a) reduce sugar by 25%, (b) substitute honey for all the sugar, (c) add a squeeze of fresh lemon juice — and whether each change is safe for a water bath processed jam.

• Describe all three gel-point tests (sheet test, frozen plate test, thermometer test) in your own words. Which will you use as your primary method and why?

• Your jam batch has been boiling for 8 minutes past the recipe's stated time and still fails the frozen plate test. List three possible causes and one corrective action for each.

• You want to make a low-sugar jam for a diabetic family member. Name the correct pectin product to use and explain why you cannot simply halve the sugar in a standard pectin recipe.

Worksheet: Jam and Jelly Batch Record

Track every jam and jelly batch through production to tasting. The gel-point and set columns are your feedback loop for improving technique.

Date made

Product (e.g. Strawberry Jam, Apple Jelly)

Fruit variety and source

Ripeness estimate (under-ripe / peak / over-ripe)

Pectin type and brand used

Sugar quantity (grams — measure by weight, not volume)

Added acid (type and quantity)

Gel-point test used

Temperature at gel point (°C)

Total boiling time after sugar added (minutes)

Jar size and number filled

Headspace measured

Processing time and altitude adjustment

Jars sealed at 24h

Set rating at 48h (runny / soft / perfect / stiff)

Tasting notes (flavour, colour, texture)

Adjustments for next batch

Exercise: Personal Seasonal Preserving Calendar

Build a 12-month preserving plan tailored to your location, household size, and preferences. This is the output you will use to guide your buying and canning decisions for the next year.

• List the top 5 preserves your household actually consumes most often. For each, estimate how many jars you use per year.

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• Research the typical harvest window for each ingredient in your region (city and province/state) and write the window (month range) next to each preserve.

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• For each preserve, calculate how many batches you need (use the batch yield from the recipe you plan to use) to meet your annual target.

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• Identify 2 months in your calendar where you currently have no planned canning activity. Is there a seasonal ingredient available in those months that you could add to your rotation?

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Checklist: Annual Pantry Audit Checklist

[ ] Pull every jar from storage and place on the counter or table
[ ] Check every lid for seal integrity — press center of each lid; a properly sealed lid does not flex
[ ] Discard without opening any jar with a bulging lid, visible mould, or missing label
[ ] Sort remaining jars by product and date processed
[ ] Identify all jars processed more than 18 months ago — plan to consume within the next 60 days or donate
[ ] Count current stock by product and compare to annual consumption targets
[ ] Identify gaps (products you ran out of before this season) and add them to next year's canning plan
[ ] Replace bands on jars going back into storage — store without bands if possible to catch future seal failures easily
[ ] Update the Preserve Inventory Log template with current stock count
[ ] Write next season's batch targets based on gaps identified in this audit

Your Action Plan

1. Order or locate a tested canning reference (NCHFP website or Ball Blue Book) before purchasing any other equipment
2. Inspect and inventory all existing canning equipment; arrange dial gauge testing at your local cooperative extension office if applicable
3. Select one beginner water bath recipe (strawberry jam or dill pickles) and source tested ingredients from a farmers market or U-pick within the next 30 days
4. Complete your first water bath batch using the Pre-Processing Safety Run-Through checklist; fill in the Water Bath Batch Record in real time
5. Open and taste your first batch at 2 weeks; compare outcome to your batch record predictions and note what you would change
6. Complete the pH Safety Sorting Exercise and verify answers against NCHFP — revisit any item you got wrong
7. If you own or plan to buy a pressure canner, complete the Pressure Canner Pre-Session Safety Checklist before your first low-acid batch
8. Execute your first pressure canning batch (green beans or carrots) and complete the Pressure Canning Batch Record
9. Build your Personal Seasonal Preserving Calendar exercise before the next harvest season begins in your region
10. Conduct a pantry audit using the Annual Pantry Audit Checklist at the end of your first full canning season and use findings to plan year two