CHAPTER 3

Food

New here? Ready, Set, Ready is a 10-minute starting point: an honest assessment, one gap closed for real, then a map for using the rest of this site. Once something's actually happened, Surviving picks up where this chapter leaves off, organized by chronology instead of category. Curious how Tier, Stage, and Phase relate? See the Glossary.

Why This Category Comes Third

Food's failure clock runs a few days longer than water's, but this chapter pairs directly with the one before it: caloric and nutritional deficits begin degrading judgment, immune function, and physical capacity within the first week without food, and everything stored, treated, or produced under Water assumes the household is also fed and thinking clearly enough to use it.

The chapter is organized into four tiers of increasing duration and self-sufficiency. Each tier builds on the one before it: Tier 1 gear does not become obsolete in Tier 2, and Tier 2 skills remain essential in Tier 3. Read each tier as "what we add," not "what replaces the last section."

Stored vs. Produced

Underneath the four tiers is a simpler shift worth naming directly: stored versus produced. Tier 1 is Stored: living entirely off what's already stored, nothing new is produced or generated. Tier 3 is Produced: stored and purchased supplies are gone, and the household shifts to producing its own food instead. Tier 2 sits between the two, a transition where bulk cooking extends what's available, but propane and Mylar-stored grain are still finite; nothing in Tier 2 renews itself the way a garden does. Tier 4 is Produced at community scale. Knowing whether a given piece of gear or a given skill is stored or produced is the difference between a plan that runs out and one that doesn't.

Tier 1: Short-to-Medium Term (Hours – 14 Days)

Goal: *Stored: using what's already stored. Immediate survival using stored buffers. Aligns with the Be Ready Utah 2-week household recommendation.*

Tier 1 assumes normal supply chains, utilities, or safe outside movement are disrupted, but help or recovery is coming within roughly two weeks. Nothing in this tier requires producing anything new: it is entirely about correctly using and rationing the food that is already stored in the home. The two-week target gives margin beyond most utility outages, regional storms, and short-notice evacuations, and matches the state of Utah's own household guidance.

Skills to Build

- **Auditing What You Actually Have:** Before buying anything new, count what's already in the house. Walk the pantry, freezer, and any other food storage area once, and write down what's actually there; weigh bagged staples or read the weight off the bag (a twenty-pound bag that looks about half used counts as ten pounds, not twenty). Convert what you find to calories (dry staples run roughly 1,700 kcal/lb, dried beans roughly 1,575 kcal/lb, cooking oil roughly 4,000 kcal/lb, canned goods roughly 350 kcal/can on average), add it up, and divide by the household's daily calorie target. That gives an actual day count against the 14-day target, not an impression. Redo this audit every few months; a fill date from a year ago stops meaning much. See the Auditing Your Food Supply skill guide for the full worked method.
- **First-In, First-Out (FIFO) Rotation:** Expiration dates creep up faster than most households notice. Mark every case and container with its purchase date in permanent marker, store newest purchases behind older ones, and consume/replace stored food twice a year (tie it to daylight saving time changes so it's easy to remember). A stockpile you never rotate is a stockpile you can't trust in an actual emergency.
- **Rationing:** Plan around roughly 2,000 kcal per person per day (more for children, nursing mothers, larger adults, and anyone doing physical labor in the response). Practice doing this math on paper before you need it. Under stress, simple arithmetic gets harder, not easier.
- **Safe Manual Opening:** Practice opening canned goods with a manual can opener before you need to do it one-handed in the dark. Keep a spare opener; they're cheap and they do fail.

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The **Food Addendum** builds these into real, tested competency.

For the hands-on how-to:

Auditing Your Food Supply | Calorie Planning for Your Food Supply | Sealing Bulk Food for Long-Term Storage | Food Preservation: Canning, Dehydrating & Smoking | What to Grow: Crop Selection & Seed Saving | Food Safety After a Power Outage

Solar Cooking: Box, Panel & Parabolic | Building a Walipini: The Underground Greenhouse | Building a Food Forest | Improvised Cold Storage: Root Cellars & Evaporative Cooling | Hunting, Trapping & Field Dressing Basics | Fishing: Lines, Traps & Legal Basics | Foraging Wild Edibles Basics | Backyard Poultry & Small Livestock Basics | Row Crop & Raised Bed Gardening | Growing in a Food Forest | Growing in a Walipini | Hydroponics & Aquaponics Basics | Perennial Vegetables | Regenerative Agriculture: Cover Crops, No-Till & Composting | Microgreens

Tech & Equipment

- **Manual Can Openers:** Heavy-duty, non-electric. Keep at least one per household kit plus a spare; this is a $10 item that a whole 14-day food plan depends on.
- **Food Thermometer:** Used to check the safety of refrigerated/frozen perishables in the early hours of a power outage before deciding whether to eat, cook, or discard them (40°F/4°C is the safety line).

Materials & Supplies

Item	Quantity / Spec	Notes
Non-perishable food	14-day supply / person	MREs, canned meats/vegetables, dry cereals, peanut butter; no cooking required.
Morale & comfort items	Small stock	Hard candy, chocolate, electrolyte mixes (cheap morale and sodium/electrolyte support).
Pet food	14-day supply	Store in waterproof containers alongside human food stores.

Special Diets

The 2,000 kcal/day figure is a baseline, not a rule: infants need formula (not substitutable with adult food or water alone), and anyone managing diabetes, allergies, or another medical diet needs their own stored supply, since generic emergency food won't cover it. See the Access & Functional Needs chapter for detail.

Portability

This tier is written for staying home: bulk cases aren't something you carry. If evacuation is plausible for your household, keep a dedicated, portable subset (a few days of lightweight food) packed and ready to grab, distinct from the bulk stay-home stock. See the Go-Bags & 72-Hour Kits skill guide for what belongs in that portable kit beyond food.

Quick Checklist

- [ ] Pantry audited and converted to an actual day count against the 14-day target
- [ ] 14-day non-perishable food supply, no-cook options included
- [ ] Manual can opener (+1 spare) and food thermometer in kit
- [ ] 14-day pet food supply, waterproof container
- [ ] FIFO rotation schedule set (e.g., spring/fall clock changes)
- [ ] Medical/special-diet needs (infant formula, allergies, diabetic supplies) stocked separately
- [ ] Portable grab-and-go food subset packed, separate from bulk stock
- [ ] Practiced: lived a full day on Tier 1 stores only, including manual can opener

Tier 2: Extended (2 Weeks – 3 Months)

Goal: The stored-to-produced transition, still finite but beginning to build renewable capability. Active resource management when municipal services are offline.

Tier 2 begins where the stored buffer runs out. The household shifts from consuming pre-packaged supplies to cooking from bulk, shelf-stable ingredients. This tier requires equipment that Tier 1 doesn't: a cooking method independent of the electrical grid.

Skills to Build

- **Bulk Cooking:** Practice cooking dry grains and beans (which require long soak/simmer times) on a camp stove before an emergency. Fuel-efficient technique (soaking overnight, using a lid, simmering instead of boiling) stretches limited propane substantially.

- **Bulk Food Rotation:** Bulk stores in Mylar are stable for years but not indefinitely once opened. Check seals seasonally and watch for signs of pest intrusion (small holes, frass) in grain and bean stores.

WARNING

Moldy Grain, Corn, or Nuts: Discard Entirely, Don't Trim and Keep the Rest

Mold in stored grain, corn, or nuts isn't just a spoilage problem; it can mean aflatoxin, a liver carcinogen that cooking does not destroy. Discard any visibly moldy, discolored, or shriveled grain or nuts entirely rather than cutting out the bad-looking portion and keeping the rest, the toxin spreads past what's visible. Correct moisture content and oxygen-absorber sealing before storage are the real defense: aflatoxin needs mold growth to form in the first place, and correctly dried, sealed grain doesn't support it. See the Sealing Bulk Food for Long-Term Storage skill guide for the actual moisture and sealing standard.

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Tech & Equipment

- **Propane Stoves:** Two-burner camp stoves with a stable stand. As a rough planning number, a single 20-lb propane tank runs a two-burner stove for roughly 15–20 hours of actual burner time; for 3 months of daily cooking, plan on multiple tanks, not one. Store more than you think you'll need; cooking dry beans from scratch uses far more fuel than reheating.
- **Backup Cooking Fuel:** Propane can run out or become unavailable to purchase. Keep a second, independent fuel source (a wood-burning rocket stove or camp fire ring) so a single fuel type isn't a single point of failure for every meal in this tier. See the Solar Cooking skill guide for a method that needs no fuel at all, just direct sun.
- **Pressure Cooker:** Cuts cooking time (and therefore fuel use) for beans and grains dramatically: often the difference between a meal in 30 minutes versus 2+ hours.
- **Battery Carbon Monoxide Detector:** Required if any propane or wood cooking happens indoors, even briefly or with a window cracked. CO is odorless; ventilation alone isn't a reliable safeguard, and this is a life-safety item, not an optional one.

Materials & Supplies

Item	Quantity / Spec	Notes
Bulk food	Grains, beans, powdered milk, salt, sugar	Store in Mylar bags with oxygen absorbers inside sealed buckets.
Vitamins	Household multivitamin supply	Guards against nutritional deficiency on a limited, repetitive diet.
Pet supplies	3-month bulk food + flea/tick prevention	Bulk-bag and reseal to keep food fresh over the full window.

Quick Checklist

- [ ] Propane stove, pressure cooker, and adequate multi-tank fuel reserve
- [ ] Backup non-propane cooking method available
- [ ] Battery CO detector in use anywhere indoor cooking happens
- [ ] Bulk grains/beans/staples stored in Mylar + oxygen absorbers
- [ ] 3-month pet food supply bagged and sealed
- [ ] Practiced: cooked a full day's meals on Tier 2 gear only

Tier 3: Permanent (Indefinite)

Goal: Produced: producing rather than consuming. Transition to production-based self-sufficiency.

Tier 3 assumes stored and purchased food is exhausted or unavailable for the foreseeable future. The household shifts from consuming reserves to producing food on an ongoing basis. This is the most skill-intensive tier in the chapter: the equipment matters far less than whether the skills were practiced before they were needed.

Skills to Build

- **Agriculture:** Planting, irrigating, and harvesting within Northern Utah's short growing season (roughly 120–140 frost-free days along the Wasatch Front). Know your local average last-frost (mid-to-late May) and first-frost (late September–early October) dates and plan varieties accordingly. Split garden space with nutrition in mind, not just calories: roughly three-quarters toward calorie-dense staples (potatoes, dry beans, corn grown for dry kernels, winter squash) and the rest toward vitamin-completeness crops that grain-and-bean storage doesn't cover. See the What to Grow skill guide for which crops actually close the nutrition gap stored staples leave behind, not just which ones fit the season.
- **Seed Saving:** Extracting, drying, and storing viable seed from open-pollinated (non-hybrid) crops so each harvest can seed the next season without outside resupply. Self-pollinating crops (beans, peas, tomatoes) are the easiest place to start; corn and squash cross more easily on wind and insects and are usually the last crops a household adds to its own seed-saving practice. See the What to Grow skill guide for real isolation distances by crop and how long saved seed actually stays viable, corn and onion seed included, which don't last nearly as long as beans or squash do.
- **Hunting & Trapping:** Ethical harvesting, field dressing, and meat preservation. Build this skill and the relevant licensing/legal knowledge now, while the framework of normal law and season still applies; competence takes years, not a single emergency. In a sustained, widespread disruption, wild game and fish near any population center get scarcer and more contested the longer things go on, a well-documented pattern from real famines and wartime shortages, not a hypothetical; scout and hunt quietly rather than advertising a productive spot, avoid overharvesting a visibly stressed local population, and coordinate shared hunting or fishing grounds through the same community governance the Security & Self-Defense chapter covers for other shared resources. See the Hunting, Trapping & Field Dressing Basics skill guide for licensing steps and the real field-dressing timeline, and the Fishing: Lines, Traps & Legal Basics skill guide for fishing's lower-barrier licensing step and its own set of state trotline, limbline, and trap rules.

- **Food Preservation:** Canning (water-bath and pressure), dehydrating, smoking, and root cellaring, all without relying on grid electricity. Acid decides the canning method: water-bath canning is only safe for high-acid foods (fruit, properly acidified pickles); low-acid foods (vegetables, meat, poultry, soups) require pressure canning, since boiling alone doesn't destroy the botulism bacteria's spores. This distinction isn't a technicality, a real 2015 outbreak sickened 29 people from potato salad made with water-bath-canned, low-acid potatoes. Nearly every U.S. state has a Cooperative Extension Service, a nationwide, land-grant university system funded partly by the USDA, offering genuinely low-cost, hands-on preservation classes worth taking before relying on the skill for real. See the Improvised Cold Storage skill guide for the actual root-cellar and evaporative-cooling designs behind that root-cellaring mention.

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Tech & Equipment

- **Processing Tools:** A hand-crank grain mill, dehydrator (solar or electric), and full canning supply set (jars, lids, pressure canner).
- **Hunting Gear:** Rifle or bow appropriate to local game, plus traps and a field dressing kit. See the Hunting, Trapping & Field Dressing Basics skill guide for trap types and what a field

dressing kit actually needs.

- **Greenhouse / Season Extension:** Cold frames or a greenhouse meaningfully extend Utah's short growing season on both ends. A walipini, a sunken pit greenhouse popularized by the Benson Institute, a Brigham Young University humanitarian project, is a real, specific design for this: soil at six to eight feet down acts as thermal mass rather than insulation, holding cold-hardy crops above killing temperature through winter without fuel. A Jean Pain compost heat mound is a real way to add sustained heat on top of it through winter without burning any fuel. A food forest, a multi-layer perennial planting stacking canopy trees, understory trees, shrubs, herbaceous plants, groundcover, vines, and root crops into one footprint, is a different approach entirely: it needs years to establish but far less ongoing labor once it does. Dave Jacke and Eric Toensmeier's two-volume *Edible Forest Gardens* is the real technical design reference for a food forest, an actual species-by-species planning process, not just the seven-layer concept.

Materials & Supplies

Item	Quantity / Spec	Notes
Seed bank	Heirloom / open-pollinated, viability varies by crop	Wheat and beans genuinely store 5+ years; corn and onion seed don't and need replanting more often. Potatoes are saved as tubers, not true seed. See the What to Grow skill guide.
Livestock	Breeding stock + feed reserve	Chickens, rabbits, and/or goats are the most common small-footprint choices.
Soil amendments	Compost, lime, manure, wood ash	Wasatch Front soils often run alkaline; test before amending heavily.
Barter goods	Surplus salt, sugar, coffee, alcohol	High shelf-stability, high trade value, low storage footprint.

Northern Utah Note

Local resource: USU (Utah State University) Extension offices publish region-specific planting calendars, soil testing services, and canning/preservation classes, worth using well before Tier 3 is actually needed. Mule deer and elk are the primary big-game options along the Wasatch Front; scouting and skill-building now are far more valuable than gear alone.

WARNING

Food Preservation: What Actually Works, and What to Avoid Entirely

Preservation carries more folklore than almost any other skill in this manual, and an unsafe method can seem to work for years before it doesn't; surviving isn't the same as safe. Real, backed-by-research methods: water-bath canning for genuinely high-acid foods, pressure canning for low-acid foods, both following a tested recipe's exact time (and pressure/time adjusted for elevation, see the skill guide below), dehydrating with meat preheated to 160-165°F before drying, and cold-smoking or curing with a precisely measured nitrite dose, not a family tradition without a known dose. Avoid entirely: open-kettle canning, oven canning, "dry canning" of dry goods (flour, rice) in jars, wax/paraffin sealing, inversion (upside-down) cooling as a substitute for real processing, reusing single-use canning lids, and an untested family recipe or unlisted substitution, extra low-acid ingredients can silently invalidate a safe processing time. See the Food Preservation skill guide below for the full breakdown and real dosing/timing tables.

Quick Checklist

- [ ] Local frost dates known; planting calendar built
- [ ] 5+ year heirloom seed bank stored cool/dry/dark
- [ ] Canning, dehydrating, and root-cellaring skills practiced (not just equipment owned), using tested recipes and altitude-adjusted times/pressure
- [ ] Hunting/trapping skills and legal framework understood
- [ ] Livestock (if applicable) housed, fed, and bred sustainably
- [ ] Barter goods stockpiled separately from personal-use stores
- [ ] Practiced: harvested and preserved at least one crop from saved seed, using only non-electric methods

Tier 4: Sustainable Community

Goal: *Produced, at community scale. Decide, deliberately, what food resilience actually looks like for your own neighborhood: move from single-household self-sufficiency to a networked, redundant local system with surplus, shared infrastructure, and knowledge transfer that outlast any one household.*

A single household, however well prepared, is a single point of failure: one illness, injury, or bad harvest can undo months of Tier 3 self-sufficiency. Tier 4 is about turning individual capability into a

networked, redundant local system. The organizing and teaching skills this takes are the same ones covered in the Community chapter; this section covers what's food-specific about applying them here.

Start concrete, not aspirational: how many households would genuinely contribute surplus or labor, not just benefit from it, and what does the neighborhood already grow or preserve well enough to share? Take what's already built at the individual level, a garden, a preservation routine, and scope out what it would actually take to run the same thing at five or ten times the household scale; the constraints change (labor coordination, equipment sharing, storage logistics), not just more of the same. A shared operation sized past what the neighborhood can actually staff and maintain fails the same way an understaffed watch rotation does: a schedule on paper nobody actually keeps.

Choosing an Approach

Three real models fit different circumstances, not one path for every neighborhood.

Approach	What it is	Fits when
Informal surplus-sharing	Neighbors giving away or directly trading extra produce and preserved goods, no shared equipment or formal rules	A small, already-trusted group, or a neighborhood still building its growing and preserving skill
Shared equipment co-op	A tool-share, seed library, or shared canning kitchen/grain mill serving a known group of households under a written agreement	Enough households with real surplus or equipment to pool, and someone willing to steward scheduling and upkeep
Formal community food operation	A food pantry, community kitchen, or cannery serving the broader public, not just a defined group of participating households	Genuine sustained demand and at least one person pursuing a food safety manager credential

WARNING

Giving Food Away and Selling It Are Regulated Very Differently

In Utah, the Home Consumption and Homemade Food Act lets a household make and directly trade or give away homemade food with no permit, inspection, or training required, labeled as not state-inspected. That changes the moment food moves through a retail outlet, a market booth, or any arrangement that isn't a direct household-to-household exchange: that crosses into separate cottage-food registration or a full food-service license, and a shared kitchen or cannery serving the broader public almost always needs a food safety manager credential.

Check your own state's specific version of this line, the details vary by product and sales channel, before assuming a growing neighborhood program stays casual.

Skills to Build

- **Surplus & Trade Management:** Converting a good harvest into stored community reserve, barter, or charity rather than letting it spoil unused; requires basic preservation-at-scale and simple record-keeping of what's owed/traded.
- **Becoming the Person Others Ask:** A state's Cooperative Extension office runs a Master Gardener Program and a Master Food Preserver course, both typically built around graduates teaching the next cohort or the public — ask your program coordinator how to move from graduate to instructor once coursework is done. If community-scale food operations are the actual goal, a food safety manager credential, the kind already required of commercial food service managers, is worth pursuing through your state's extension service or a recognized food safety certification body. Difficulty: Medium to High. Training: a real certification program. Cost: $-$$.

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Tech & Equipment

- **Community-Scale Processing:** A shared grain mill, community canning kitchen, or root-cellar co-op spreads the cost of expensive equipment across several households and keeps it in use (and maintained) year-round. The Improvised Cold Storage skill guide covers the actual designs a shared root cellar would be built from.
- **Seed Library Infrastructure:** Labeled, cataloged seed storage with germination-testing tools, so viable seed stock is distributed across multiple households instead of concentrated in one root cellar.

Materials & Supplies

Item	Quantity / Spec	Notes
Community seed bank	Redundant across households	Multiple households each hold a duplicate set; no single point of failure.
Shared reserve stock	Community-agreed buffer	A pooled reserve for households that have a bad season, replenished from surplus.
Trade/charity surplus	Ongoing, from good harvests	Explicit surplus set aside for barter or mutual aid, tracked simply.

Northern Utah Note

Utah already has a working template for this: LDS community cannery and bishop's storehouse programs demonstrate shared preservation infrastructure and mutual-aid distribution at real scale. A neighborhood-level version, regardless of household affiliation, can borrow the same basic model: shared equipment, agreed contribution rules, and a simple record of what's been put in and taken out.

Quick Checklist

- [ ] At least one shared/community food-preservation resource identified or organized
- [ ] Seed stock duplicated across more than one household
- [ ] Community reserve or mutual-aid buffer established
- [ ] Simple record-keeping in place for shared/traded resources

- [ ] Headcount and real contribution capacity checked against the neighborhood's actual growing/preserving skill, not assumed
- [ ] Direct-trade vs. retail-sale line for homemade food checked against your state's specific rule
- [ ] Practiced: run at least one shared event (canning day, seed swap, skill-share) with neighbors

At a Glance: Food Across All Tiers

A single-page reference for planning purposes. This does not replace the detailed guidance above; use it to see how the plan scales, not as a standalone checklist.

Tier	Mode	Duration	Food Plan
Tier 1	Stored	Hours – 14 days	Stored non-perishables, no cooking required
Tier 2	Transition	2 weeks – 3 months	Bulk staples, camp-stove cooking
Tier 3	Produced	Indefinite	Grown, hunted, and preserved food
Tier 4	Produced	Sustainable community	Community surplus, trade, and reserves