

YOUR FREE READER'S COMPANION

The Season Extension Pack

A companion to The Backyard Cold Frame & Season Extension Bible · by Tessa Lindgren

Thanks for picking up the book. This is the companion you tape inside the shed door or tuck in the seed box: the structure chooser that matches your space and budget to the right tool, a glazing-and-venting quick reference so you buy the cover once and never cook a crop, a what-to-plant-when table by zone and season so your winter greens reach size before the light runs out, a simple cut list for one classic window cold frame you can build in an afternoon, and a printable season-extension calendar and checklist for the whole year. Print it, fold it, keep it where you plan.

In twenty-five Vermont winters I've lost far more greens to a sunny afternoon than to a cold night. Cold rarely kills a crop you built right. Heat does. Trap the sun, vent the heat, harvest all winter — and the word in the middle is the one everybody skips. — Tessa

1. The Structure Chooser

Season extension uses one of four tools, and the whole skill is reaching for the right one. Match it to your space, your budget, and how deep into winter you mean to grow, and you've made the biggest decision in the project. Every one of these works on the same physics — trap low winter sun, hold it in soil and mass, vent the midday heat — so the choice is about scale and effort, not magic. Costs are 2026 backyard estimates; "season gain" is how far past your open-garden frost dates the tool reliably stretches the harvest in a zone 4–5 winter.

Tool	Typical cost (2026)	Season gain	Best crops	Pick it when
Cold frame (low sloped box, glazed lid)	\$60–\$250	Deep winter (Dec–Feb) for hardy greens & roots	Spinach, mâche, carrots, kale, lettuce	You want the most heat retention on a small footprint and will vent it
Low tunnel (short hoops + film or row cover)	\$20–\$40 per bed	4–8 weeks each side; deep winter if doubled	Carrots, spinach, mâche, scallions, kale	You want to cover a whole bed cheap and don't mind bending to tend it
Hoop house (walk-in, film over big hoops)	\$400–\$1,500	All winter; double-zone shift if layered	Everything hardy, plus a walk-in workspace	You're committed, want headroom, and will re-skin it every 4–6 years
Row cover (Agribon over crop or hoops)	\$15–\$50 per roll	2–8°F frost buffer; layer inside others	Whole beds of greens; the inner layer in a cold frame	You want the most forgiving tool that never overheats

Three rules that decide the choice

- Trapping cuts both ways. The tools that hold the most heat (cold frame, clear film) overheat fastest and demand the most venting. The breathable one (row cover) is gentle and hands-off but gives you less. More sun trapped means more attention owed.
- Layering beats buying big. The best value isn't one fancy structure — it's stacking two cheap covers. A row cover inside a low tunnel, or a low tunnel inside a hoop house, each layer is worth roughly half a USDA zone. Two cheap layers cost less than one expensive structure and shift you nearly two zones.
- Build the kit in order. Start with row cover and a low tunnel for under \$100 to learn your yard's microclimate. Add a cold frame once you know your sunniest winter spot. Build a hoop house only when you've outgrown the rest and you're sure you'll keep at it.

The honest trade-off: cheap tools cost you labor and attention; the hoop house costs money and a re-skin every few years but buys headroom and a walk-in climate. For a first winter, a cold frame and a low tunnel will carry a zone 4 garden through January.

2. Glazing & Venting Quick Reference

Glazing is the clear stuff the light comes through — the heart of every frame — and venting is the second word of the mantra that keeps that trapped sun from cooking the crop. Get these two right and the rest is dirt and timing.

Glazing — buy it once

Glazing	Light let in	Insulation	2026 cost	Use it for
Salvaged single-pane window	~90%	Low (single glass)	\$0–\$40 scrounged	The classic cold-frame lid; free if you scrounge
6mm twin-wall polycarbonate	~80%	R-1.5 to R-1.6	\$45–\$70 / 4x8 sheet	New builds; nearly unbreakable, insulated
6-mil 4-year greenhouse film	High	None (wind block only)	\$30–\$60 / roll	Low tunnels and hoop houses

- Scrounge windows from the local Habitat ReStore, marketplace listings, and the dumpster behind any window-replacement job (ask first — contractors almost always say yes). Want single-pane wood sash, not fogged aluminum double-pane.
- Watch for lead paint on anything painted before 1978: don't sand it bare-handed, just scrape loose flakes, prime, and topcoat.
- Twin-wall channels run vertically (up and down the slope) so condensation drains out the bottom. Seal the top edge with solid tape and the bottom with vented tape, and face the printed UV side at the sun or the panel yellows.
- Never buy hardware-store painter's plastic for tunnels. With no UV inhibitor it turns to confetti in one season. Pay for 4-year greenhouse film.

Venting — the part that saves the crop

On a clear 25°F afternoon a sealed frame can hit 100°F inside in under an hour, and 100°F cooks lettuce as surely as frost does. Vent by temperature, not the clock or the sky — a bright 25°F day is a venting day. Rig two ways and use both: a notched prop stick for hands-on control, and a wax-cylinder auto opener (\$30–\$45) as your safety net for when you're away.

Crop inside	Crack vent at	Open fully at	Close again near
Hardy greens (spinach, kale, mâche)	45°F	60°F	40°F
Lettuce & tender greens	40°F	55°F	38°F
Seedlings / hardening off	50°F	65°F	45°F

Read the day, not the calendar. Sunny and still below 50°F: vent mid-morning, check at midday. Sunny and breezy: crack it, watch the max/min. Overcast above 25°F: often no venting at all. Clear night with

a hard freeze coming: close early and drape an inner row cover. Hang a \$12–\$20 max/min thermometer at plant height and read it daily — it tells you what happened while you were gone.

3. What to Plant When — by Zone & Season

Winter harvesting isn't mostly about toughness. It's about timing. The plants you eat in January did almost all their growing in October, while there was still light and warmth to build a body. Once daylight drops below ten hours — the Persephone period — growth nearly stops no matter how warm you keep it. So your real deadline isn't first frost; it's your ten-hour day. Sow so plants are about three-quarters grown by then, and the cold frame holds the standing crop in cold storage all winter.

The master formula: Sow date = your ten-hour-day date – the crop's days-to-maturity – a fall slowdown factor (add ~2 weeks to the packet number for fall's shorter days).

Last-sowing windows for hardy greens, by zone

Daylight, not your frost date, sets these. A warm fall won't move them.

USDA Zone	~10-hr day begins	Last sow: hardy greens	Last sow: fast greens (mâche, arugula, radish)
Zone 3	Nov 5	Aug 15 – Sep 1	Sep 10
Zone 4	Nov 8	Aug 20 – Sep 5	Sep 15
Zone 5	Nov 12	Sep 1 – Sep 15	Sep 25
Zone 6	Nov 18	Sep 10 – Sep 25	Oct 5
Zone 7	Nov 25	Sep 20 – Oct 10	Oct 20

The four-season job of a covered bed

- Spring (under cover): start a month to six weeks ahead of the open garden — early greens, radishes, hardy seedlings. As the sun strengthens, your job switches from trapping heat to venting it; a closed frame cooks a tray in an hour on a sunny April day.
- Summer: pull the lid or prop it wide and grow it as a regular raised bed. The real summer work is planning the next winter — late summer is when winter begins.
- Fall (make-or-break): sow everything you mean to eat in winter, counting back from your ten-hour date. Also prime time for fast picks — radishes, baby turnips, arugula.
- Winter: little to no sowing. Maintain cover, vent on sunny days, harvest what fall built. At winter's tail you can start the earliest spring sowings under cover.

Crop hardiness — what survives what (under cover)

Lowest air temperature a hardened-off, protected crop reliably survives. Unprotected in open ground, knock 8–10°F off. Survival and quality are two different lines — mâche shrugs off -10°F but tastes best well above that.

Crop	Survives to (under cover)	Sow window (40°N / Zone 5–6)	Notes
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Mâche (corn salad)	-10°F	Aug 25 – Sep 20	Toughest green there is; barely needs cover
Spinach (Bloomsdale, Giant Winter)	0°F	Aug 20 – Sep 15	The flagship; freezes solid, thaws fine, sweetens
Claytonia (miner's lettuce)	0°F	Aug 25 – Sep 20	Mild, juicy, thrives in low light
Kale (Winterbor, Red Russian)	0°–5°F	Jul 25 – Aug 20	Sweetens after frost; older leaves hardest
Carrots (in-ground)	0°F (mulched)	Jul 15 – Aug 10	Mulch heavy; cold turns them to "candy carrots"
Tatsoi / Asian greens	5°F	Aug 15 – Sep 10	Fast, hardy, great in low tunnels
Leeks (overwintering)	-5°F	May – Jun	Stand in frozen ground; dig as needed
Arugula	6°F	Aug 15 – Sep 25	Fast fall picks; bolts in any warmth
Scallions	10°F	Jul 15 – Aug 15	Tough and forgiving
Lettuce (Winter Density, Rouge d'Hiver)	10°F	Aug 1 – Sep 1	Least hardy; needs your best sealed frame
Radish	20°F	Aug 15 – Sep 25	Quick filler; succession-sow weekly

Slide every date earlier if you're north of 40°N, later if you're south. Sow your first winter a touch early on purpose — an oversize plant costs you nothing, an undersize one costs you the whole crop. Succession-sow the holding crops in two or three batches two weeks apart so you're not harvesting everything in one week.

4. Cut List — One Classic Window Cold Frame (~3x6 ft)

This is the build to do first: a sloped wooden box with a clear lid, sized to a single salvaged window or one twin-wall sheet, set on a south-facing, well-drained, wind-sheltered spot. Built right it grows greens October through April and outlasts three lawnmowers. The golden rule — size the box to the glazing, not the other way around. Measure your lid first, then build the box about half an inch smaller all around so the lid overhangs and sheds water past the walls, not into them.

Qty	Item	Size	Use
1	Salvaged window or twin-wall polycarbonate	~3x6 ft, 6mm	The lid (glazing)
2	2x12 cedar or ground-contact treated	8 ft	Front, back & side walls
1	2x4	8 ft	Corner cleats + poly lid frame
2	Strap or stainless hinges	3 in	Hinge lid at high back
1	Notched prop stick (scrap 1x2)	12–14 in	Manual venting
1	Auto vent opener (wax cylinder)	up to ~15 lb lift	Hands-off venting safety net
1	Weatherstrip, adhesive foam/EPDM	~\$6 roll	Seal lid-to-box gap
1 box	Exterior coated deck screws	3 in	Box assembly
1 box	Exterior screws	1.5 in	Cleats + lid frame
1 tube	Exterior silicone (if using poly)	—	Seal poly lid edges

Dimensions: footprint 6 ft wide x 3 ft front-to-back; back wall 15 in, front wall 9 in — a 6-inch drop over 3 ft, about a 10° tilt toward south that sheds water and aims the glass at the low winter sun. Finished cost: roughly \$60 with a salvaged window, up to \$180 all-new in cedar with a poly lid.

Three build rules that make it last

1. Cut the slope into the side panels. Each side is a right trapezoid — mark 15 in at the back, 9 in at the front, snap a line, and cut the diagonal. Cut both identical; that line is what the lid lies flat against.
2. Join at corner cleats. Stand a 2x4 cleat inside each corner and screw both adjoining walls into it — far stronger than screwing panel-edge to panel-edge. Check square by measuring both diagonals and adjust until they match.
3. Seal, then vent. Run weatherstrip along the top edges so the lid presses onto a soft gasket (worth several degrees overnight), then mount the prop stick and the auto opener. Sealing holds the night warmth; venting dumps the day heat. You need both.

Add a battery: line four black-painted gallon jugs of water along the back (north) wall in the sun. They soak up daytime heat and give it back overnight — often 3 to 6°F at the coldest hour — without shading the crop. A frame built against a south masonry wall does the same trick for free.

5. Printable Season-Extension Calendar & Checklist

Tape this where you plan. The whole year, one column at a time.

Mid-summer (Jul) — winter begins now

- [] Sow the slow holding crops: carrots, leeks, scallions, kale. They need the long runway while the summer garden looks its fattest.
- [] Look up your ten-hour-day date from a sunrise-sunset table for your town. Write it on the calendar — that's your real deadline.

Late summer to early fall (Aug–Sep) — the make-or-break window

- [] Sow the hardy holding greens in a tight window: spinach, mâche, claytonia, tatsoi. This is the beating heart of the winter garden.
- [] Succession-sow a short row every 7–14 days; do the slow crops in 2–3 batches two weeks apart.
- [] Dribble in fast crops — radish, arugula, baby greens — through September for quick picks before deep cold.
- [] Build or refurbish the frame while the weather's kind: glazing clean, weatherstrip fresh, hinges working, auto opener mounted.

Fall (Oct–Nov) — close it up

- [] Hang a max/min thermometer at plant height; reset and read it daily.
- [] Switch your habit from trapping to venting on sunny days, then back to trapping as nights cold off.
- [] Stage the inner row cover so it's ready to drape the first hard freeze is forecast.

Winter (Dec–Feb) — hold and harvest

- [] Vent on every bright still day, even below freezing — open mid-morning, close an hour or two before sunset to bank heat.
- [] Drape the inner row cover at dusk on hard-freeze nights; peel it back when you vent so light reaches the leaves.
- [] Harvest thawed, not frozen — cut at midday once leaves have softened, and cut-and-come-again rather than clear-cutting.
- [] Watch for trouble when you vent: crack the lid 20 minutes midday to dump humidity, remove dead leaves, set slug traps.

Late winter to spring (Feb–Apr) — turn the corner

- [] Start the earliest spring sowings under cover even with snow around.
- [] Vent harder as the sun strengthens — an April frame cooks a tray of seedlings in an hour.
- [] Clean glazing, replace tired film, and check hinges and corners before next season.

That's the pack. The one habit worth more than any tool in the shed: vent by temperature, not by the calendar, because more winter crops die from a sunny afternoon than from a cold night. Build the classic window frame first to learn the moves, sow your holding greens in the heat of late summer when it feels wrong, and let the cold do the rest — every build is drawn up complete with cut lists in the back of the book. When you cut your first January salad off a frame on your own patch of ground, I'd love to hear about it, and in a couple of emails I'll tell you how a quick word from you helps this book reach the next person standing in their garden in October, counting backward.

Trap the sun, vent the heat, harvest all winter,

Tessa Lindgren