



SEED SAVING

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Introduction

This book is a practical pocket guide to seed saving in Scottish conditions. Designed for back garden and small-scale growers, it covers the essential techniques for saving seeds from common vegetables, fruits and herbs. While not exhaustive, it provides the core information you need to start saving your own seeds successfully.

Successful seed saving helps preserve varieties that grow well in our unique climate, reduces growing costs, and contributes to local food security. It also helps reduce our carbon footprint by lowering food miles and creates more resilient local food systems.

Understanding a few key principles will help you succeed:

Population Sizes

When saving seeds, we need to collect from a minimum number of plants to maintain healthy populations from year to year. Using too few plants repeatedly will, in time, reduce their resistance to pests and diseases, as well as their overall vigour (health and strength). This process is called inbreeding depression and can significantly impact your crops over generations. We've included suggested minimum numbers for each crop as a guide.

Cross-Pollination

Some crops will cross-pollinate more readily than others, which is important to note as we save seeds year after year. Plants within the same family can sometimes breed with each other - for example, all brassicas (cabbages, kales, broccoli) can cross. In the Cucurbit family (squashes, pumpkins, courgettes), members of the same species can cross-pollinate. When this happens, the resulting seeds might not produce plants true to type, meaning they won't have the same characteristics as the parent plants.

Scottish Climate Considerations

Our unique climate presents both challenges and opportunities for seed saving. While some crops are challenging to save seed from,

others thrive in our conditions. This guide focuses on techniques adapted to Scottish growing conditions, including specific advice for dealing with our weather patterns.

Each crop section includes detailed information about:

- How suitable it is for Scottish seed saving
- Minimum population sizes needed to maintain variety
- Minimum plants needed for viable seed
- Isolation distances required
- Specific techniques for seed saving
- Additional notes for success in our climate

How To Use This Guide

We've organised crops into three categories based on how challenging they are to save seeds from in Scottish conditions:

Easy Crops - These are ideal for beginners and reliably produce seeds in our climate. They include:

- Kale, peas, lettuce, beans, garlic, chard, spinach, spring onions, sunflowers, basil, parsnip, and tomatoes (under cover)

Moderate Difficulty - These crops need more attention but are still achievable for most growers:

- Broccoli, Brussels sprouts, cabbage, cauliflower, carrots, kohlrabi, onions, turnip, cucumber, courgette, and pumpkin

Challenging Crops - These require specific conditions and more experience:

- Sweetcorn, melon, and aubergine

Understanding the format for each crop, you'll find:

- A Scottish growing rating
- Required population sizes
- Isolation distance needed
- Seed viability period
- Step-by-step technique
- Additional notes specific to Scottish growing

The guide also includes detailed information on:

- Fermentation processes
- Seed storage
- Troubleshooting
- Scottish climate considerations

Understanding Key Concepts

Pollination Types

Self-pollinating plants -

- these plants mostly pollinate themselves
- easier for seed saving
- include: tomatoes, peas, lettuce, beans
- need smaller isolation distances
- require fewer plants for saving seed

Cross-pollinating plants -

- need pollen from other plants
- more challenging for seed saving
- include: all brassicas, onions, carrots
- need larger isolation distances
- require more plants for saving seed

Isolation Distance

This is how far apart different varieties need to be to prevent crossing. For example:

Self-pollinators: often just a few feet

Brassicas: up to 1 mile

Most root crops: 1/2 mile

Squash family: 1/2 mile

For back garden seed saving these distances are not as important and can be greatly reduced. Isolation distance becomes more important

in large scale growing projects where lots of different plants are grown in proximity. The need for isolation distance can be removed using isolation cages or by covering flowers and using hand pollination methods. This technique is recommended for back garden seed saving as many of the isolation distances would be unachievable. Also bear in mind that wind pollinated plants will still require isolation distances and barrier methods will only work for insect pollinated plants.

Population Size

The minimum number of plants needed to maintain:

- genetic diversity
- healthy seed stock
- strong future crops
- disease resistance

As with isolation distance, population size is not as important for back garden or small-scale seed saving if we keep in mind that constantly using seed from the same plants will eventually result in loss of vigour and resistance to pests and diseases. Crops in the guide also have a minimum number of plants for viable seed. This will allow us to save useable seed from year to year but will eventually lead to inbreeding depression, in this case it is important to swap seeds of the same variety with other gardeners or to gradually increase the population over time to maintain healthy plants.

Essential Equipment for Seed Saving

Collection and cleaning:

- paper bags or envelopes
- clean containers for wet seed processing
- fine mesh sieves (different sizes)
- clean buckets for washing seeds
- small scissors or secateurs
- clean labels and permanent markers

Drying and storage:

- paper sheets
- mesh drying screens
- glass jars with tight-fitting lids
- paper envelopes
- silica gel packets
- airtight containers
- temperature and humidity meters

Protection:

- Fleece or row covers for frost protection on tender crops
- Plant labels
- Support canes
- String or plant ties
- Netting for bird protection

Getting Started

1. Start with easy crops suitable for Scottish growing
2. Choose open-pollinated varieties
3. Learn your plant families
4. Keep good records of:
 - variety names
 - planting dates
 - number of plants
 - collection dates
 - special characteristics

Planning your garden:

- consider isolation distances if needed
- allow extra space for seed plants
- consider protection needs
- think about indoor drying space

Why Save Seeds?

Saving your own seeds is a rewarding practice that connects you to the full cycle of food growing. There are several compelling reasons to save seeds:

- preserve varieties that grow well in Scottish conditions
- reduce growing costs and become more self-sufficient
- develop plants better adapted to your local climate
- maintain crop diversity and food security
- reduce your carbon footprint by lowering food miles
- share successful varieties with other local growers

Understanding Seed Saving Basics

Types of pollination

- Self-pollinating plants (like tomatoes and peas) are easiest for beginners
- Cross-pollinating plants (like brassicas) need isolation or barriers
- Some plants cross within their family group and need special attention

Key terms

True to type - plants that maintain their parent characteristics

Viable - seeds capable of germinating and growing

Isolation distance - space needed between varieties to prevent crossing

Bolting - when plants flower to produce seeds

Vernalisation - cold period some plants need to produce seeds

Fermentation - process used to clean some wet seeds

Basic equipment needed

- paper envelopes or bags for storage
- glass jars with tight-fitting lids
- silica gel packets for moisture control
- labels and permanent markers
- fine mesh sieves
- paper plates or sheets for drying
- small scissors or pruners
- clean containers for fermentation

Plant Selection and Population Sizes

Choosing the Best Plants

Always select plants that show:

- strong healthy growth
- good disease resistance
- typical variety characteristics
- quality fruit or vegetables
- strong root systems
- ability to cope with local conditions

Understanding population sizes

Maintaining enough plants is crucial for:

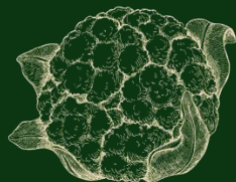
- preventing inbreeding depression (reduced plant vigour over generations)
- maintaining genetic diversity
- ensuring strong future crops
- preserving variety characteristics

Crop Family Guide

Plants in the same family often share:

- similar growing needs
- cross-pollination risks
- seed saving techniques
- disease susceptibilities

Main plant families in this guide:



Brassicacae (cabbage family)

- Includes: broccoli, brussels sprouts, cabbage, cauliflower, kale, kohlrabi, turnip
- minimum population: 20-30 plants
- isolation distance: 1 mile (or 1/2 mile with barriers)
- biennial - flower in second year
- well-suited to Scottish climate with protection

Cucurbitaceae (squash family)

- Includes: courgette, cucumber, pumpkin
- minimum population: 10-20 plants
- isolation distance: 1/2 mile (or hand pollination)
- may need protection in Scottish climate
- risk of cross-pollination within species



Solanaceae (tomato family)

- Includes: tomatoes, peppers, chillies and aubergine
- minimum population: 6-10 plants (self-pollinating varieties)
- no isolation needed for most home gardens
- best grown under cover in Scotland



Fabaceae (pea family)

- Includes: Peas, broad beans, French beans, runner beans
- minimum population: 10-15 plants
- isolation distance: 50 feet
- key characteristics:
 - mostly self-pollinating (except runner beans)
 - easy to save seeds
 - seeds viable 3-4 years
 - well-suited to Scottish climate



Apiaceae (carrot family)

- Includes: carrots, parsnips, celery, parsley
- minimum population: 20-30 plants
- isolation distance: 1/2 mile
- key characteristics:
 - will cross with wild relatives
 - biennial - flowers in second year



- seeds short-lived (1-3 years)
- need good drainage for overwintering

Amaranthaceae (beet family)

- Includes: chard, beetroot, spinach
- minimum population: 12-20 plants
- isolation distance: 1/4 mile
- key characteristics:
 - will cross within species
 - some wind pollinated
 - seeds viable 3-6 years
 - some hardy in Scottish climate



Basic Seed Saving Techniques

Selecting Plants

Always choose plants that show:

- strong healthy growth
- good disease resistance
- typical variety characteristics
- weather resilience
- strong root systems

Timing Your Harvesting

Dry Seeds (peas, beans, brassicas etc)

- Leave seeds on plant until almost dry
- Harvest before seed falls or seed pods split
- Seeds should rattle in pods
- Complete drying indoors
- Watch weather forecast

Wet Seeds (tomatoes, cucumbers etc)

- Allow fruit to fully ripen
- Often past eating stage
- Look for colour changes
- Choose earliest ripening fruits
- Process promptly after harvest

Cleaning Methods

Dry Seeds

1. Thresh (break open pods/heads)
2. Winnow (separate seeds from chaff)
3. Sieve if needed
4. Final hand sorting
5. Dry thoroughly

Wet Seeds

1. Scoop seeds from fruit
2. Ferment if needed
3. Wash thoroughly
4. Strain and clean
5. Dry immediately

Crop Guide

Easy Crops



Kale

Scottish growing rating	Easy
Population size to maintain variety	20 - 30 plants
Minimum for viable seed	5 plants
Isolation distance	½ mile
Seed viability	4-5 years

Technique

1. Plant in spring or summer
2. Select strong, healthy plants for overwintering
3. Allow to flower in spring
4. Wait for seed pods to turn brown but harvest before they shatter
5. Complete final drying indoors

Additional Notes

- Excellent choice for Scottish seed saving
- Very hardy - minimal winter protection needed
- Will cross with all brassicas
- Stake plants when flowering (can reach 1.5m)
- Traditional Scottish varieties like Scots' kale are most reliable
- Good ventilation essential during flowering period
- Keep an eye out for cabbage white butterflies during flowering

Peas



Scottish growing rating	Easy
Population size to maintain variety	10 - 15 plants
Minimum for viable seed	1 plant
Isolation distance	20 feet
Seed viability	3-4 years

Technique:

1. Sow successive crops March-June for crop security
2. Provide strong support systems for wind protection
3. Select the healthiest plants for seed saving
4. Allow pods to turn brown and dry on plant
5. Harvest when pods rattle but before they split
6. Complete drying indoors in wet weather

Additional Notes:

- Self-pollinating and naturally suited to Scottish climate
- Choose early-maturing varieties for seed security
- Traditional Scottish varieties often most reliable
- Protection from birds essential - netting recommended
- Consider mangetout varieties for wet summers
- Harvest whole plants if wet weather threatens
- Store dried seeds with silica gel packets
- Disease resistant strains recommended for Scottish conditions
- Yellow or pale pods indicate readiness for harvest
- Test seed readiness - should be hard with no indentation when pressed

Lettuce (Loose-Leaf).

Scottish growing rating	Easy
Population size to maintain variety	6 - 10 plants
Minimum for viable seed	1 plant
Isolation distance	12 feet
Seed viability	3-5 years



Technique:

1. Sow successionally from March to July
2. Select strongest plants for seed saving
3. Allow plants to bolt and flower
4. Protect flowering stems from wind and rain with stakes
5. Harvest seeds progressively as they ripen
6. Complete drying indoors

Additional Notes:

- Well-suited to Scottish growing conditions
- Red and bronze varieties often show better weather resistance
- Can be grown outdoors but protect from heavy rain when setting seed
- Harvest regularly in wet weather to prevent seed loss
- Support stems when flowering - can reach 1m tall
- Good ventilation essential to prevent mould
- Indoor drying necessary in Scottish climate
- Plant successionally to spread risk of poor weather
- Morning harvest recommended when seeds are dry
- Save seeds from last plants to bolt for better seed crop next year

Leeks



Scottish growing rating	Easy
Population size to maintain variety	20 - 30 plants
Minimum for viable seed	5 plants
Isolation distance	¼ mile
Seed viability	2-3 years

Technique:

1. Plant in spring for seed production following year
2. Select plants with longest, straightest stems
3. Protect through winter with good drainage and mulch
4. Allow flowering in second spring
5. Support tall flower heads - can reach 1.5m
6. Harvest when seeds turn black

Additional Notes:

- Excellent crop for Scottish conditions
- Traditional Scottish staple crop
- Heritage varieties often particularly successful
- Good air circulation essential to prevent rust
- Seeds ready when black and visible in heads
- Protection from wind when flowering needed
- Watch for leek moth in flowering stems
- Consider polytunnel growing for reliable seed
- Remove any diseased plants promptly
- Seeds must be thoroughly dried before storage

Beans (French and Runner)

Scottish growing rating	Easy
Population size to maintain variety	10 - 15 plants
Minimum for viable seed	1 plant
Isolation distance	50 ft between varieties
Seed viability	3-4 years



Technique:

1. Choose early-maturing varieties for Scottish growing season
2. Plant in late May after last frost risk
3. Support plants well against wind
4. Allow pods to dry and turn brown on plant
5. Harvest when pods rattle but before they split
6. Complete final drying indoors

Additional Notes:

- French beans more reliable than runners for Scottish seed saving
- Choose bush varieties for exposed sites
- Runner beans may need greenhouse growing for viable seed
- Protection needed in exposed areas
- Remove any diseased plants before seed saving
- Store with silica gel packets in our humid climate
- Check regularly during drying for mould
- Pods should crackle when ready
- Test seeds are fully dry before storage - should snap, not bend
- Heritage varieties often perform well in Scottish conditions

Garlic

Scottish growing rating	Easy
Population size to maintain variety	Save best 10% of crop
Isolation distance	None required
Seed viability	6-8 months for planting stock



Technique:

1. Plant largest, healthiest cloves in October-November
2. Ensure good drainage for winter weather
3. Harvest when leaves begin yellowing (usually July)
4. Cure in dry, well-ventilated area indoors (2-3 weeks)
5. Select largest bulbs with healthy cloves for replanting

Additional Notes:

- Excellent crop for Scottish conditions
- Hard neck varieties particularly suited to Scotland
- Store planting stock below 10°C with good ventilation
- Watch for rust in wet conditions
- Early varieties recommended for reliable harvest
- Ensure good drainage in winter months
- Allow soil to dry slightly before harvest
- Don't clean too thoroughly - some soil protection helps storage
- Remove flower stems unless saving bulbils
- Check stored bulbs monthly for signs of rot

Chard

Scottish growing rating	Easy
Population size to maintain variety	12 - 15 plants
Minimum for viable seed	5 plants
Isolation distance	¼ mile from beetroot & other chard
Seed viability	4-6 years



Technique:

1. Sow in spring for overwintering
2. Select strongest plants for seed saving
3. Protect with fleece or cloches in winter
4. Allow to flower following spring
5. Harvest seeds progressively as they mature
6. Complete final drying indoors

Additional Notes:

- Hardy enough for Scottish winters with basic protection
- Will cross with beetroot - maintain isolation distance
- Good drainage essential for winter survival
- May need wind protection when setting seed
- Collect seeds regularly in wet weather
- Look for brown seed clusters when harvesting
- Remove any plants that bolt in first year
- Seeds ready when they turn brown and feel hard
- Stems may need support when in flower
- Perpetual varieties most reliable for Scottish growing

Spinach



Scottish growing rating	Easy
Population size to maintain variety	15 - 20 plants
Minimum for viable seed	10 plants (mixed male & female)
Isolation distance	$\frac{1}{4}$ mile between varieties
Seed viability	3-5 years

Technique:

1. Sow in spring or late summer for seed saving
2. Select slowest bolting plants for seed saving
3. Provide wind protection for tall seed stems
4. Male and female flowers grow on separate plants
5. Harvest seeds when they turn brown and feel hard
6. Complete final drying indoors

Additional Notes:

- Well-suited to cool Scottish climate
- Keep approximately one male plant for every 4-5 females
- Male plants die after pollen release
- Female plants become large and need support
- Good drainage essential
- Watch for early bolting in long summer days
- Spring-sown crop most reliable for seed
- Remove any weak or early bolting plants
- Seeds turn from green to brown when ready
- Protect from heavy rain when setting seed

Spring Onions

Scottish growing rating	Easy
Population size to maintain variety	20 - 30 plants
Minimum for viable seed	5 plants
Isolation distance	¼ mile between varieties
Seed viability	1-2 years



Technique:

1. Sow in succession March-July
2. Select strongest plants for seed saving
3. Support flowering stems - can reach 1m
4. Protect seed heads from rain with cloth covers
5. Harvest when seeds are visible and black
6. Complete final drying indoors

Additional Notes:

- Hardy crop suitable for Scottish gardens
- Japanese varieties often particularly successful
- Good air circulation essential to prevent mould
- Seeds ready when black and visible in heads
- Protection from wind when flowering needed
- Watch for white rot in wet conditions
- Consider polytunnel growing for reliable seed
- Harvest heads just before seeds fully mature
- Use fresh seeds - viability drops quickly
- Remove any diseased plants promptly

Sunflower



Scottish growing rating	Easy
Population size to maintain variety	10 - 15 plants
Minimum for viable seed	5 plants
Isolation distance	½ mile between varieties
Seed viability	5-7 years

Technique:

1. Start indoors in April
2. Plant out after frost risk (late May)
3. Support stems against wind
4. Cover ripening heads with mesh for bird protection
5. Harvest when backs of heads turn yellow-brown
6. Complete final drying indoors

Additional Notes:

- Choose shorter, early flowering varieties
- Single-headed varieties most reliable
- Wind protection essential in Scottish climate
- May need to complete ripening indoors
- Bird protection crucial as seeds mature
- Consider dwarf varieties for exposed sites
- Seeds ready when heads turn brown
- Back of head should be yellow, not green
- Test seeds are hard before harvesting
- Remove any diseased plants before saving seed

Basil

Scottish growing rating	Easy
Population size to maintain variety	6 - 8 plants
Minimum for viable seed	3 plants
Isolation distance	150 feet between varieties
Seed viability	3-5 years



Technique:

1. Grow in greenhouse, polytunnel or windowsill
2. Select strongest plants for seed saving
3. Allow plants to flower and set seed
4. Harvest stems when seed pods turn brown
5. Complete final drying indoors
6. Thresh dried heads to release seeds

Additional Notes:

- Must be grown under protection in Scotland
- Different varieties can be grown closer in polytunnels (50ft)
- Seeds must be thoroughly dried due to humid climate
- Start plants early (March-April) indoors
- Indoor drying essential in Scottish climate
- Remove any leggy or weak plants
- Seeds ready when pods are brown-black
- Dry heads downward in paper bags
- Store with silica gel in our climate
- Grows well with tomatoes in polytunnels

Parsnip

Scottish growing rating	Easy
Population size to maintain variety	20 - 30 plants
Minimum for viable seed	5 plants
Isolation distance	½ mile
Seed viability	1-2 years



Technique:

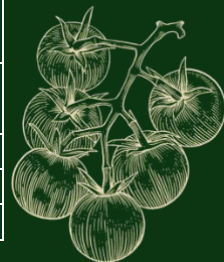
1. Sow in spring for overwintering
2. Select best roots for seed saving
3. Protect roots over winter with mulch
4. Support tall flower stems in spring
5. Harvest seeds progressively as they ripen
6. Complete final drying indoors

Additional Notes:

- Well-suited to Scottish climate
- Early varieties recommended for reliable seed
- Strong supports needed for wind protection
- Watch for canker in wet conditions
- Local varieties often most reliable
- Seeds turn brown when ready
- Can reach 2m tall when flowering
- Remove any diseased roots before winter
- Harvest before autumn rains
- Use seeds fresh - viability drops quickly

Tomato

Scottish growing rating	Easy (when grown under cover)
Population size to maintain variety	6 - 10 plants per variety
Minimum for viable seed	5 plants
Isolation distance	None for most varieties
Seed viability	4-10 years



Technique:

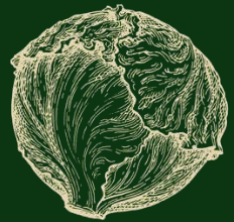
1. Start early (February-March) indoors
2. Grow under glass or polytunnel
3. Select best fruits from healthiest plants
4. Ferment seeds from fully ripe fruits
5. Dry thoroughly after fermentation
6. Store in cool, dry conditions

Additional Notes:

- Must be grown under protection in Scotland
- Most varieties self-pollinate reliably
- Choose reliable Scottish-proven varieties
- Bush types often ripen earlier
- Good ventilation essential
- Shorter fermentation time (2-3 days) in our climate
- Potato-leaf varieties good for cooler conditions
- Save from first-ripening fruits
- Remove any diseased plants
- Keep different varieties 3 feet apart if saving seed

Headed Lettuce

Scottish growing rating	Easy
Population size to maintain variety	6 - 10 plants
Minimum for viable seed	1 plant
Isolation distance	12 feet
Seed viability	3-5 years



Technique:

1. Start early under cover (March)
2. Plant out after frost risk
3. Select slowest-bolting plants
4. Protect flowering stems from wind and rain
5. Harvest seeds progressively as they ripen
6. Complete final drying indoors

Additional Notes:

- Choose bolt-resistant varieties
- Protection from rain essential when setting seed
- Indoor drying necessary in Scottish climate
- Consider butterhead types for reliability
- May need greenhouse for reliable seed
- Morning harvest recommended
- Support stems when flowering
- Save seeds from last plants to bolt
- Remove any early-bolting plants
- Keep different varieties separated

Moderate Crops

Broccoli



Scottish growing rating	Moderate
Population size to maintain variety	20 - 30 plants
Minimum for viable seed	5 plants
Isolation distance	1 mile (or ½ mile with barriers)
Seed viability	4-5 years

Technique:

1. Plant in spring for seed production following year
2. Select strongest plants with best head formation
3. Protect overwintering plants with sturdy frame and fleece
4. Allow to flower in second spring
5. Harvest seed pods when brown but before shattering
6. Complete final drying indoors

Additional Notes:

- Suited to Scottish climate but needs winter protection
- Will cross with all brassicas
- Keep well-drained during winter months
- Protect from winter wet more than cold
- Support needed in strong winds when flowering
- Consider early varieties for seed maturation
- Remove any diseased plants
- Save seeds from plants with best heads
- Can grow to 1.5m when flowering

Brussels Sprout

Scottish growing rating	Moderate
Population size to maintain variety	20 - 30 plants
Minimum for viable seed	5 plants
Isolation distance	1 mile (or ½ mile with barriers)
Seed viability	4-5 years



Technique:

1. Plant in spring for overwintering
2. Select plants with best sprout formation
3. Protect roots from winter wet with good drainage
4. Allow flowering in second spring
5. Harvest seeds in late summer before autumn rains
6. Complete final drying indoors

Additional Notes:

- Well-suited to Scottish climate
- Will cross with all brassicas
- Traditional Scottish crop - many suitable varieties
- Needs less winter protection than other brassicas
- Strong stems resist wind damage
- Good air circulation essential in humid conditions
- Remove any plants with poor sprout formation
- Can grow to 1.5m when flowering
- Select plants with uniform sprout size
- Watch for cabbage white butterflies during flowering

Cabbage

Scottish growing rating	Moderate
Population size to maintain variety	20 - 30 plants
Minimum for viable seed	5 plants
Isolation distance	1 mile (or ½ mile with barriers)
Seed viability	4-5 years



Technique:

1. Plant in spring for overwintering
2. Select plants with best head formation
3. Ensure good drainage for winter survival
4. Allow to flower in second spring
5. Harvest seeds in late summer before autumn rains
6. Complete final drying indoors

Additional Notes:

- Well-adapted to Scottish climate
- Will cross with all brassicas
- Choose varieties bred for Scottish conditions
- Protect from excessive winter wet
- May need wind protection when flowering
- Traditional Scottish crop with many suitable varieties
- Remove any plants with poor head formation
- Can grow to 1.5m when flowering
- Watch for cabbage white butterflies
- Select plants showing disease resistance

Cauliflower

Scottish growing rating	Moderate
Population size to maintain variety	20 - 30 plants
Minimum for viable seed	5 plants
Isolation distance	1 mile (or ½ mile with barriers)
Seed viability	4-5 years



Technique:

1. Plant in spring for overwintering
2. Select plants with best curd formation
3. Protect during winter with fleece or cold frame
4. Allow flowering in second spring
5. Harvest seeds in late summer
6. Complete final drying indoors

Additional Notes:

- More challenging than other brassicas in Scotland
- Will cross with all brassicas
- Choose autumn or winter varieties
- Requires good drainage for winter survival
- Protection from wind essential when flowering
- Consider growing under polytunnel for reliable seed
- Remove any plants with poor curd formation
- Can grow to 1.5m when flowering
- Watch for cabbage white butterflies
- Select plants showing best weather tolerance

Carrot

Scottish growing rating	Moderate
Population size to maintain variety	20 - 30 plants
Minimum for viable seed	5 plants
Isolation distance	½ mile
Seed viability	3 years



Technique:

1. Sow in late May for seed production following year
2. Select best-shaped roots for saving
3. Lift roots and over winter in box of dry, sharp sand
4. Keep frost-free but cool (1-5°C)
5. Replant in spring 4 inches deep
6. Harvest seeds when brown and starting to shed

Additional Notes:

- Can be challenging in heavy Scottish soils
- Will cross with wild carrot (Queen Anne's Lace)
- Ensure excellent drainage for overwintering
- May need protection in very wet areas
- Support flower heads in windy conditions
- Early varieties recommended
- Remove any flowering wild carrots nearby
- Can grow to 1.5m when flowering
- Seeds ready when brown and bristly
- Select for disease resistance and root shape

Celery



Scottish growing rating	Moderate
Population size to maintain variety	20 - 30 plants
Minimum for viable seed	5 plants
Isolation distance	½ mile
Seed viability	3-5 years

Technique:

1. Start early (February-March) for overwintering
2. Select plants with best stalk formation
3. Protect through winter with fleece or cold frame
4. Allow flowering in second spring
5. Support tall flower stems
6. Harvest seeds progressively as they ripen

Additional Notes:

- Challenging but possible in Scottish climate
- Will cross with wild celery and celeriac
- Needs excellent drainage for winter survival
- Protection from excessive winter wet essential
- Consider self-blanching varieties
- Remove any plants that bolt in first year
- Seeds ready when brown and easily detached
- Can grow to 1.8m when flowering
- Store with silica gel in our climate
- Watch for septoria leaf spot

Kohlrabi

Scottish growing rating	Moderate
Population size to maintain variety	20 - 30 plants
Minimum for viable seed	5 plants
Isolation distance	1 mile (or ½ mile with barriers)
Seed viability	4-5 years



Technique:

1. Plant in spring for overwintering
2. Select plants with best bulb formation
3. Protect from excess winter wet
4. Allow flowering in second year
5. Harvest seeds before autumn rains
6. Complete final drying indoors

Additional Notes:

- Can be challenging in wet Scottish winters
- Will cross with all brassicas
- Ensure excellent drainage
- May need cloche protection in winter
- Early varieties recommended
- Consider raised beds for better drainage
- Remove any plants with poor bulb formation
- Can grow to 1.5m when flowering
- Watch for cabbage white butterflies
- Select for uniform bulb size and shape

Turnip

Scottish growing rating	Moderate
Population size to maintain variety	20 - 30 plants
Minimum for viable seed	5 plants
Isolation distance	1 mile (or ½ mile with barriers)
Seed viability	4-5 years



Technique:

1. Plant in spring for seed production
2. Select plants with best root formation
3. Protect through winter with good drainage
4. Allow flowering in second spring
5. Harvest seeds when pods turn brown
6. Complete final drying indoors

Additional Notes:

- Traditional Scottish crop
- Will cross with all brassicas
- Choose local varieties where possible
- Protection from winter wet essential
- Watch for club root in wet soils
- Consider raised beds for better drainage
- Remove any misshapen roots
- Can grow to 1.5m when flowering
- Seeds ready when pods turn light brown
- Store with silica gel in our climate

Onion

Scottish growing rating	Moderate
Population size to maintain variety	20 - 30 plants
Minimum for viable seed	5 plants
Isolation distance	¼ mile
Seed viability	1-2 years



Technique:

1. Plant sets in spring for best results
2. Select firmest, best-shaped bulbs
3. Protect overwintering plants with fleece
4. Support flower heads in second year
5. Harvest seeds when heads begin to split
6. Complete final drying indoors

Additional Notes:

- Choose varieties proven in Scottish conditions
- Japanese varieties often perform well
- Protection from wind essential when flowering
- Good ventilation needed to prevent neck rot
- Consider polytunnel growing in very wet areas
- Start early for reliable seed production
- Remove any diseased bulbs
- Can grow to 1.2m when flowering
- Seeds ready when black and visible
- Use seeds fresh - viability drops quickly

Cucumber

Scottish growing rating	Moderate
Population size to maintain variety	10 - 20 plants
Minimum for viable seed	1 plant
Isolation distance	½ mile or hand pollination
Seed viability	5 years



Technique:

1. Grow in greenhouse or polytunnel
2. Start early (March-April)
3. Hand pollinate flowers for true-to-type seeds
4. Allow fruits to fully ripen beyond eating stage
5. Ferment seeds for 2-3 days
6. Complete thorough drying indoors

Additional Notes:

- Must be grown under protection in Scotland
- Will cross with other cucumbers
- Choose varieties suited to greenhouse growing
- Maintain good ventilation to prevent mildew
- Keep heat consistent during seed maturation
- Remove any diseased plants
- Fruit should be yellow when saving seed
- Ferment at 20-25°C
- Test seeds sink in water after fermentation
- Store with silica gel in our climate

Courgette

Scottish growing rating	Moderate
Population size to maintain variety	10 - 20 plants
Minimum for viable seed	1 plant
Isolation distance	½ mile or hand pollination
Seed viability	5-6 years



Technique:

1. Start early indoors (April)
2. Plant out after frost risk (late May)
3. Hand pollinate female flowers
4. Allow fruits to fully mature beyond eating stage
5. Harvest when fruit is hard and yellow
6. Complete final drying indoors

Additional Notes:

- Best grown under cover in Scotland
- Will cross with other courgettes and some pumpkins
- Hand pollination essential in polytunnels
- Choose early-maturing varieties
- Protection from wind and rain necessary
- Remove any diseased plants
- Fruit should be large and hard
- Seeds ready when fruit yellows
- Store with silica gel in our climate
- Watch for powdery mildew

Pumpkin

Scottish growing rating	Moderate - challenging
Population size to maintain variety	10 - 20 plants
Minimum for viable seed	1 plant
Isolation distance	½ mile or hand pollination
Seed viability	5-6 years



Technique:

1. Start indoors in April
2. Plant out in late May under protection
3. Hand pollinate female flowers
4. Limit fruits for better seed maturation
5. Allow fruits to fully mature
6. Optional seed fermentation (2-3 days)

Additional Notes:

- Will cross with other pumpkins and some courgettes
- Choose small, early maturing varieties
- Hand pollination may be needed
- Focus on crown pumpkins rather than large varieties
- Remove any diseased plants
- Seeds ready when fruit fully coloured
- Store with silica gel in our climate
- Watch for powdery mildew



Challenging Crops

Sweetcorn

Scottish growing rating	Challenging
Population size to maintain variety	100 - 200 plants
Minimum for viable seed	10 plants
Isolation distance	½ mile or hand pollination
Seed viability	3-5 years

Technique:

1. Start indoors in April
2. Plant out under protection late May
3. Hand pollinate to ensure good seed set
4. Protect from wind and rain
5. Allow cobs to fully mature on plant
6. Complete ripening under cover

Additional Notes:

- Very challenging for seed saving in Scotland
- Large population needed for genetic diversity
- Best grown in polytunnel or greenhouse
- Super-sweet varieties not recommended
- Choose earliest maturing varieties
- Protection from wind essential
- Consider focusing on more reliable crops
- Seeds ready when kernels hard and glossy
- Store with silica gel in our climate
- Remove any weak plants early

Melon

Scottish growing rating	Challenging
Population size to maintain variety	10 - 20 plants
Minimum for viable seed	1 plant
Isolation distance	½ mile or hand pollination
Seed viability	5-6 years



Technique:

1. Start very early indoors (March)
2. Grow under protection always
3. Hand pollinate all flowers
4. Maintain consistent warmth
5. Allow fruits to fully ripen beyond eating stage
6. Complete final ripening indoors

Additional Notes:

- One of the most challenging crops for Scottish seed saving
- Must be grown in greenhouse or polytunnel
- Requires consistent temperatures above 20°C
- Hand pollination essential
- Choose earliest maturing varieties
- Focus on small-fruited varieties
- Remove any weak or diseased plants
- Fruit must be fully ripe for viable seed
- Store with silica gel in our climate
- Consider whether worth the effort in Scotland

Aubergine

Scottish growing rating	Challenging
Population size to maintain variety	6 - 10 plants
Minimum for viable seed	1 plant
Isolation distance	50 feet
Seed viability	5-7 years



Technique:

1. Start very early indoors (February-March)
2. Grow under protection
3. Maintain warm temperatures
4. Allow fruits to fully mature past eating stage
5. Harvest when fruits turn yellow or brown
6. Ferment seeds for 2-3 days

Additional Notes:

- Extremely challenging in Scottish climate
- Must be grown in greenhouse
- Requires consistent warmth
- Choose earliest maturing varieties
- Focus on smaller-fruited types
- Remove any weak plants
- Seeds ready when fruit changes colour
- Store with silica gel in our climate
- Consider whether worth the effort
- May need supplementary heat

Fermentation Process

Basic Fermentation Guide

Why Ferment Seeds?

- Removes germination-inhibiting compounds
- Helps prevent seed-borne diseases
- Separates viable seeds from non-viable ones
- Mimics natural rotting process of fruits

General Rules for Fermentation:

1. Maintain consistent temperatures (20-25°C)
2. Use clean containers (glass or plastic)
3. Never use metal containers
4. Stir twice daily
5. Keep track of time - don't over-ferment
6. Complete process indoors

Scottish Climate Considerations:

- Indoor fermentation essential
- May need slightly longer fermentation times
- Maintain consistent warmth
- Good ventilation necessary
- Use thermometer to monitor temperature

Tomato Seed Fermentation

Fermentation Time: 2-3 days in Scottish conditions

Technique:

1. Select fully ripe, disease-free fruits
2. Scoop out seeds and surrounding gel
3. Add 60ml water per tomato's worth of seeds
4. Place container in warm location (20-25 °C)
5. Stir twice daily
6. Monitor for signs of completion

Signs of Completion:

- White mould layer forms on top
- Seeds sink to bottom
- Gel coating separates from seeds
- Mild, fermented smell



Post-Fermentation:

1. Add more water and stir
2. Pour off pulp, debris, and floating seeds
3. Repeat until water runs clear
4. Strain through fine mesh
5. Dry immediately on paper plates or coffee filters
6. Provide good air circulation

Cucumber Seed Fermentation

Fermentation Time: 2-3 days in Scottish conditions

Technique:

1. Choose fully ripe cucumbers (yellow and soft)
2. Cut lengthwise and scoop out seeds with pulp
3. Add equal amount of water to seed pulp
4. Maintain at 20-25°C
5. Stir twice daily
6. Monitor for signs of completion

Signs of Completion:

- Pulp rises to top
- Good seeds sink to bottom
- Mild fermentation smell
- Seeds feel clean when rubbed



Post-Fermentation:

1. Add water and stir
2. Pour off pulp and floating seeds
3. Rinse remaining seeds thoroughly
4. Dry on paper plates or coffee filters
5. Ensure good ventilation
6. Store when completely dry

Pumpkin Seed Fermentation

Fermentation Time: 24-36 hours (Optional process)

Technique:

1. Scoop seeds from fully ripe pumpkin
2. Remove most of the stringy pulp
3. Place in container with equal parts water
4. Keep at room temperature (20-25°C)
5. Stir twice daily
6. Watch carefully - don't over-ferment

Signs of Completion:

- Pulp begins to separate from seeds
- Seeds should still be firm
- Mild fermentation smell
- No sliminess on seeds

Post-Fermentation:

1. Rinse thoroughly in colander
2. Remove any remaining pulp
3. Dry immediately with good air circulation
4. Use paper plates or mesh screens
5. Turn seeds daily while drying
6. Store when completely dry

Troubleshooting Fermentation

Over-Fermentation Issues:

- Seeds begin to germinate
- Strong ammonia smell develops
- Seeds become soft or mushy

Solution: Reduce fermentation time and monitor more closely

Prevention: Check every 12 hours after day 2

Under-Fermentation Issues:

- Gel still attached to seeds
- Seeds difficult to clean
- Seeds feel slimy

Solution: Continue fermentation process, checking every 12 hours

Prevention: Maintain correct temperature

Mould Issues:

- White mould is normal and beneficial
- Black or coloured mould indicates problems
- Green or blue mould needs immediate attention
- Solution: Ensure good air circulation and stir more frequently
- Prevention: Clean containers and fresh water

Seed Storage After Fermentation

Drying Process:

1. Dry seeds thoroughly until they snap when bent
2. Use paper plates or coffee filters
3. Maintain good air circulation
4. Keep temperature around 20°C
5. Turn seeds daily
6. Test by bending - should snap not bend

Storage Conditions:

1. Store in paper envelopes or glass jars
2. Add silica gel packets in humid conditions
3. Keep in cool, dry location (5-10°C)
4. Label with variety and date
5. Test germination after 6 months
6. Monitor regularly for moisture issues

Special Consideration for Scottish Climate

Indoor Drying Requirements

- Always dry fermented seeds indoors
- Use fan for air circulation if needed
- Maintain temperature around 20°C
- Avoid conservatories due to temperature fluctuations
- Never dry in greenhouse or polytunnel
- Check daily for mould development

Humidity Management

- Use dehumidifiers during drying if needed
- Add silica gel packets to all storage containers
- Check seeds regularly for moisture issues
- Consider using moisture meters for monitoring
- Paper bags better than plastic in our climate
- Avoid basements for storage

Timing Considerations

- Start crops early enough to ensure mature fruits
- Allow extra time for seed maturation
- Complete fermentation before autumn temperatures drop
- Allow longer drying times in humid conditions
- Plan for indoor ripening of many crops
- Consider weather forecasts when harvesting

Protection Methods

1. Use polytunnels and greenhouses effectively
 - Maintain good ventilation
 - Avoid overcrowding
 - Monitor temperatures
 - Control humidity levels
2. Outdoor Protection
 - Provide wind breaks in exposed sites
 - Use fleece covers appropriately
 - Ensure good drainage
 - Protect from excessive rain
 - Consider raised beds
 - Use cloches when needed

Recommended Resources

Books:

Fruit and Vegetables for Scotland: What to Grow and How to Grow It -

Kennith Cox & Caroline Beaton

Back Garden Seed Saving: Keeping Our Vegetable Heritage Alive -

Sue Stickland & Susanna Kendall

Grow Your Own Vegetables -

Joy Larkcom

Breed Your Own Vegetable Varieties: The Gardeners and Farmers Guide to Plant Breeding and Seed Saving -

Carol Deppe

Online Resources:

- Real Seeds Catalogue (www.realseeds.co.uk)
 - Specific growing information
 - Heritage variety resources
 - Detailed seed saving guides

Organisations:

- Scotland's Seed Sovereignty Programme
- Garden Organic Scotland
- www.seedsovereignty.info

Local Resources:

- Local seed swaps and seed libraries
- Community gardens with seed saving programs

Glossary of Terms

Bolting: When a plant moves from leafy growth to producing a flowering stem, usually triggered by day length or temperature changes.

Cross-pollination: Transfer of pollen between different plants of the same or similar species.

Fermentation: Process used to clean some wet seeds by breaking down the gel coating and reducing seed-borne diseases.

F1 Hybrid: First generation cross between two different parent varieties. Seeds from these plants won't grow true to type.

Inbreeding Depression: Loss of vigour and genetic diversity from repeatedly saving seeds from too few plants.

Isolation Distance: The space needed between different varieties of the same crop to prevent unwanted cross-pollination.

Open-pollinated: Plants that produce seeds that grow true to type when properly isolated.

Population Size: The minimum number of plants needed to maintain genetic diversity when saving seeds.

Self-pollinating: Plants that can pollinate themselves without needing pollen from other plants.

True to Type: Plants that maintain the characteristics of their parent plants.

Vernalization: The cold period some plants need to trigger flowering.

Viable: Seeds that are capable of germinating and growing into healthy plants.

Vigour: The overall health, strength and performance of a plant.

Winnowing: The process of separating seeds from chaff using wind or a fan.

This guide was created for the Lanarkshire Seed-Savers Network and funded by the Lanarkshire Climate Action Hub to strengthen and educate people on our local food systems. Growing your own food, whether in your garden or community spaces, offers profound benefits: reduced food costs, pesticide-free produce, and improved nutrition.

Home-grown food does more than just feed us - it builds resilient communities and nurtures our environment. By saving seeds and growing locally, we cut food miles, support pollinators, insects, wildlife, and preserves varieties adapted to Scottish conditions. Each garden, no matter how small, contributes to a more sustainable and food-secure future.

We hope you'll Join us in this movement. Your garden can help build a healthier, more sustainable Scotland.



GROW 73

DAVE MATTHEWS

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