

Winter saviours

Squashes are one of mankind's oldest crops, and those known as 'winter squash' can be stored for months. Several of these were grown in an RHS trial last year and were judged in January 2011

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Winter squashes are frost-sensitive, heat-loving plants native to the Americas. Yet they are easy to grow in the UK, and a versatile vegetable (although technically a fruit) valued for their hard-skinned, mature fruit. Grown over summer and stored for winter use in the kitchen, their often sweet, starchy flesh can be roasted or mashed, as well as being cooked in both sweet and savoury dishes such as soups, pies and cakes.

What is a winter squash?

Winter squashes belong to the *Cucurbita* genus of the *Cucurbitaceae* (or cucumber) family that also includes melons and marrows. There are five domesticated species of cucurbits (see p64),

distinguished from each other by differences in their fruit stalks, plant stems, leaves and seeds.

For the most part, winter squashes are vine-like plants with sideshoots developing along a main stem. The stem can grow quite long: in extreme cases it can reach more than 9m (30ft) in length. There are major differences in growth habits between cultivars, with habits that can be defined as bushy, semi-bushy, semi-trailing or trailing. Their growing environment is also an influence – the same cultivar can vary markedly from year to year in different conditions.

A winter squash fruit has a stalk and a hard skin or rind surrounding a layer of dense, starchy flesh. The flesh encloses a cavity that contains seeds embedded in a network of moist, stringy pulp. Fruit are connected to the plants by their stalks,



Cucurbita pepo 'Festival' growing on the Trials Field at RHS Garden Wisley.

Winter squash

and the stalk end is considered to be the top of the fruit. Opposite is the bottom or 'blossom end' where the flower blossom was once attached to the young fruit. Growing winter squashes is not difficult: manage in the same way as courgettes.

Cultivating winter squashes

Plants grow well outdoors in Britain during summer and early autumn. However, they can be damaged by frost, so time sowing and planting to avoid spells of cold weather in early summer.

Sow seeds 1.25–2.5mm ($\frac{1}{16}$ – $\frac{1}{8}$ in) deep in compost-filled pots about 7.5–9cm (3–3½in) in diameter in the first half of May. Keep pots in a tunnel or glasshouse ideally (or on a warm windowsill), where the seed should germinate under ambient conditions. If the weather turns cold, pots can go in a propagator with the temperature set between 20–32°C (68–90°F).

Prepare the soil in the usual way, adding compost and fertiliser to poorer soil if their levels are low. During the first half of June, harden off plants carefully and transplant them when the roots fill the pots. Squashes need plenty of space, so leave about 1.5–2m (5–6½ft) between plants, or reduce the distance to 1m (39in) for cultivars with a bushy growth habit.

Transplanting can be done through a black plastic mulch, which will keep weeds under control and reduce water loss from the soil surface. To hasten growth, especially in the north of the UK, grow them in a sheltered spot and cover plants with horticultural fleece. Remove the fleece as soon as flowers appear, otherwise pollinating bees cannot get to them and fruit will not be produced.

Once transplanted, little care should be needed other than to water the plants during dry spells. Where space is limited, the spread of trailing cultivars can be controlled by training the main stems into a circle around the bases of the plants. Alternatively, train them up a trellis or archway, supporting larger fruit so that they don't pull the vines to the ground.

Slugs are the only pest of any consequence; they can be controlled either biologically or chemically. Mildew – a scourge of the cucurbit family – is the most common disease, and particularly a problem later in the growing season. Cultivars vary considerably in resistance to mildew. Water-stressed plants may be more susceptible to infection, so watering and mulching might keep the disease in check. You should also practice a three- or four-year rotation between cucurbit crops.

Harvesting

Winter squash fruit should be mature and ripe for harvesting from September to October. Telling when they are ready is a bit of an art. Hardening of the skin is a good sign: if your fingernail easily

Types of winter squashes

Most winter squashes can be categorised according to their fruit shape (though not all cultivars fit neatly into a category).



Acorn (*Cucurbita pepo*)
Vaguely acorn-shaped, fairly small fruit that are oval and ribbed. Usually dark green, but can be ivory, orange or even multicoloured (such as 'Harlequin').



Buttercup (*C. maxima*)
Fruit are round, but flattened to a degree, with a protruding 'button' on the blossom end. The skin is usually green, although it is orange in some cultivars.



Butternut (*C. moschata*)
Elongated, cylindrical fruit with a neck of solid, sweet and nutty flesh, enlarging into a bulbous seed cavity. Skin light brown or tan. Heat loving, so do best in warm summers.



Gem (*C. pepo*)
Fruit are dark green, roundish and about the size of a cricket ball. Plants can be highly productive, though the flavour of the fruit is uninspiring.



Hubbard (*C. maxima*)
Depending on the cultivar, fruit can be teardrop shaped with a flat blossom end or often oval, tapering at both ends. Skin can be blue, green or orange.



Kabocha (*C. maxima*)
The thick sweet flesh is highly valued for its culinary quality. Similar in shape to buttercup squash, but without the 'button'. Skin can be orange, grey or green.



Pumpkin (*C. pepo* and *C. maxima*)
A contentious category: includes orange and white *C. pepo* and *C. maxima*. Fruit flat, round or oval. Some, such as 'Baby Bear', have seeds that do not need peeling.



Turban (*C. maxima*)
Fruits are enlarged at the blossom end, giving a turban-like appearance. 'Turk's Turban' is ideal as an ornamental. Warty, grey 'Marina di Chioggia' is better in the kitchen.

marks the surface, it means the fruit are not quite mature. The stalks of maturing fruit dry out, while colour changes to the skin are also indicators of maturity: green- and grey-coloured fruit, for example, may develop an orange or pink patch where they touch the ground.

To harvest, cut the fruit from the plant with a knife or secateurs, leaving it with at least 2.5cm (1in) of stalk. Fruit are easily damaged at this stage and should be handled with care (see RHS Advice, p29 for more on harvesting, curing and storing fruit).

Winter squash ancestry

There are five domesticated species of cucurbits that contribute to a diverse range of fruit sizes, shapes, colours and flavours:

- ❖ *Cucurbita argyrosperma* (formerly *C. mixta*), which has a corky, hard fruit stalk, is rarely seen.
- ❖ *C. ficifolia*, sometimes called Malabar gourd, is also known as fig-leaf gourd for the shape of its leaves. It is a relatively cold-tolerant species with fruit that look like watermelons, but these have a stringy, flavourless flesh.
- ❖ *C. pepo* is distinguished by fruits with hard, distinctively angled fruit stalks. It is the most popular *Cucurbita* species in British gardens and includes marrows, courgettes, summer squashes, spaghetti squashes, most pumpkins and a large proportion of winter squashes.
- ❖ *C. moschata* produces fruit with hard, slightly-angled stalks. The most heat-loving species, it includes buff-coloured butternut winter squashes, renowned for their eating quality.
- ❖ *C. maxima* fruit have round, soft and frequently corky fruit stalks. The culinary value of some cultivars such as 'Crown Prince' (awarded an Award of Garden Merit, right) is outstanding. The species also includes giant pumpkins that produce probably the largest fruit on the planet.











Although they have been around for years, winter squashes are relatively neglected in Britain. There are myriad productive, tasty cultivars that have proven their worth (see panel, right, and *The Garden*, Oct 2009, pp676–677, for the results of an RHS butternut trial). Easy to grow and versatile in the kitchen, they provide a delicious, nutritious antidote to tedious winter diets – no garden or kitchen should be without them.●

ACKNOWLEDGEMENTS:
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FURTHER READING:
❖ *The Compleat Squash*, by Amy Goldman, Workman Publishing. 2004, ISBN 9781579652517
❖ *Cucurbits*, by RW Robinson and DS Decker-Walters, CABI Publishing, 1997, ISBN 9780851991337

Winter squashes with the RHS Award of Garden Merit (AGM)



<p>An RHS winter squash trial (excluding pumpkins and butternut squash) was conducted at RHS Garden Wisley, 2010–2011.</p> <p>A total of 47 winter squash cultivars, both open-pollinated and F₁ hybrids, were submitted for trial by American and British seed companies. They were evaluated for: level of mildew resistance; taste; storage quality; fruit size; and yield.</p> <p>www.rhs.org.uk The RHS has trialled summer, winter and butternut squashes, and pumpkins. Visit www.rhs.org.uk/trials, click on 'Plant trials search' and enter 'Squash' or 'Pumpkin' in the box. ❖ Video: Nigel Slater learns about winter squash cultivars at RHS Garden Wisley; see 'October 2011' at www.rhs.org.uk/thegarden</p>		 <p>'Sunshine' (<i>C. maxima</i>) Not a high yielder but excellent flesh quality; semi-bush; good mildew resistance.</p>	 <p>'Celebration' (<i>C. pepo</i>) Sweet flavour; semi-bush habit; high yield.</p>
 <p>'Sweet Lightning' (<i>C. pepo</i>) Sweet; trailing; early to ripen; excellent storage.</p>		 <p>'Sweet Dumpling' (<i>C. pepo</i>) Sweet; trailing; good crop of mid-sized fruit.</p>	
 <p>'Honey Bear' (<i>C. pepo</i>) Sweet; good mildew resistance; bushy; fair yield; outstanding storage.</p>		 <p>'Crown Prince' (<i>C. maxima</i>) Large fruits; excellent storage; delicious flavour.</p>	 <p>'Harlequin' (<i>C. pepo</i>) Good texture and flavour; semi-bush; high yield and good storage.</p>
 <p>'Heart of Gold' (<i>C. pepo</i>) Good texture and flavour; semi-bush; high yield; good storage.</p>	 <p>'Kabocha Large Fruited' (<i>C. maxima</i>) Flesh is thick, sweet and smooth; good storage.</p>	 <p>'Sunspot' (<i>C. maxima</i>) Sweet with smooth texture; deep orange flesh.</p>	

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storing
squash

Choosing the best cultivars

- 1 Earliness** Winter squashes take four to five months from sowing to produce mature fruit, though this depends to a great extent on cultivar. Choose early-ripening selections for the north of the UK and high altitudes.
- 2 Growth habits** Cultivars display four types of growth habits – bushy, semi-bushy, semi-trailing and trailing (although where one stops and the other begins is subjective).
- 3 Yield** Both fruit size and the number of fruit per plant vary from cultivar to cultivar. Size and number affect the total yield of fruit flesh, although to an extent one may compensate for the other.
- 4 Mildew resistance** Winter squashes are susceptible to mildew infection, but some cultivars are more likely to succumb than others. Where mildew has been a problem, choose resistant cultivars.
- 5 Flavour and taste** Fruits vary markedly in taste. Some are nutty, sweet or honey-like, in contrast to the bland, tea-like taste of others. The addition of sugar or other flavour enhancers may correct any shortcomings.
- 6 Texture** The texture of the flesh varies: sticky versus floury; moist or dry; and stringy versus smooth.
- 7 Flesh colour** Ranges in different cultivars from anaemic, ivory white to an appealing dark orange.
- 8 Flesh thickness** Depends on the size of fruit in relation to their internal cavity. The thicker the flesh, the better it is for roasting like potatoes. Necks of butternut squashes are solid flesh and so ideal for this.
- 9 Storability** If properly harvested, cured and stored, some winter squashes can last right through to spring. Others, however, can only be stored for much shorter periods, and will not make it through to the New Year.