

Inspirations Newsletter



Broad Bean Cultivars

Three years ago at Cressy research station we grew out 10 broad bean cultivars.

A grow-out is where we select cultivars which we are not familiar with and observe the plants at maturity then make notes, for example fruit shape and size, height of plant.

A trial is where we sow known cultivars, and make notes, with the aim of selecting, sourcing or producing the best of them all according to specific criteria, for example flavour, and yield. We also look at germination and seed vigour.

The Grow-Out

We cultivated 10 1.5m x 1.5m beds. The soil was free draining slightly acid sandy loam. We added a small amount of lime to each plot.

We were not aiming to produce nutrient dense food, so top quality soil was not a major consideration.

We sowed 16 seeds of each cultivar in each plot in late autumn.

Preferably we would have sown in March to test for cold hardiness but we were busy cleaning dry bean seed from March to July.

10 lines were enough for us, any more would have an impact on seed trials in the spring.

Broad Bean Cultivars



Paramo



Witkiem



Spectra



Bunyards Exhibition

We kept enough of the pure seed lines for sowing in isolation at a later date, broad beans cross pollinate readily if more than one cultivar is sown within 500m.

This is done by growing a few plants in large containers in isolation and collecting the seeds, or growing plants in a single row and collecting the seeds.

The year after this a 1m by 5m block can be sown to select for uniformity and genetic variation and stability, the year after that a uniform selection is grown in a larger block maybe 2m by 15m.

In sandy soils, like ours, which dry out quickly in spring we sowed the seeds 4.5cm deep, in cold heavy clay we would have sown them 3cm deep, they could rot if too deep.

We spread some NPK and trace elements around the growing plants.

The following is a pictorial representation of the results. Note the different formations of pods on the different plants, size and shape and colour of beans and the leaf shapes.

What you are looking at is a diverse range of broad bean plants selected over many years from different sources and regions probably all from the same land race many, many years ago.

I have also included images of Aquadulce and Coles dwarf which I grow in the display gardens to show customers; a purple flowered cultivar I grow at home and in the display garden; and Karmazyn a pink seeded cultivar we grew in 2015 at Cressy.

“A picture tells a thousand stories”



Media



Martock



Red Epicure



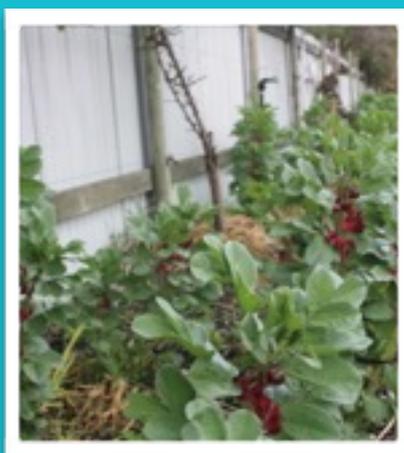
Jubilee Hyssop



Optica

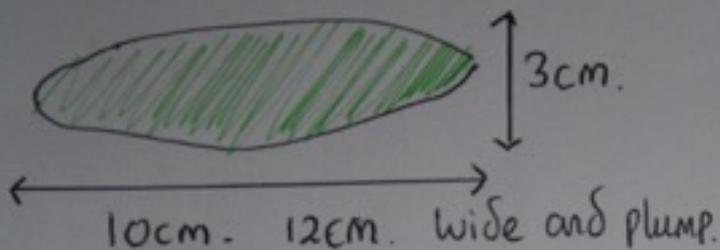


Windsor



Broad Bean Grow Out Information 2013

'Paramo'



Kidney shaped
white 2.5cm
large beans.
4 - 5 per pod.

Height of plant 1m.

Leaf Shape
- uniform leaflets.

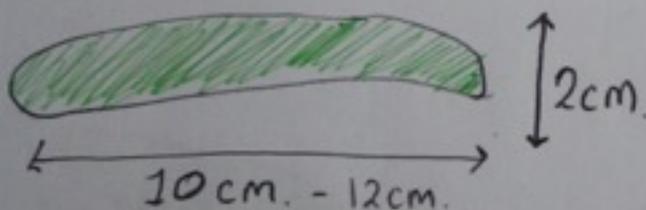


Pods - bunched



This cultivar can be planted very early in a cool climate garden. It is very frost tolerant. Early, high yielding.

2. 'Witkiem'



Kidney shaped
white, 2cm seeds.
Sometimes 1.5cm.
5-8 per pod.

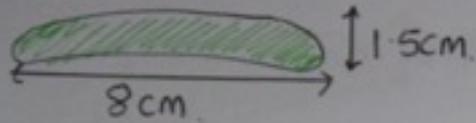
Leaf Shape



1m tall approx

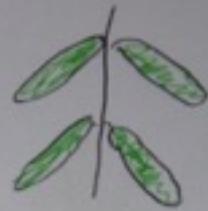
Cold tolerant - early cultivar.

3. 'Spectra'



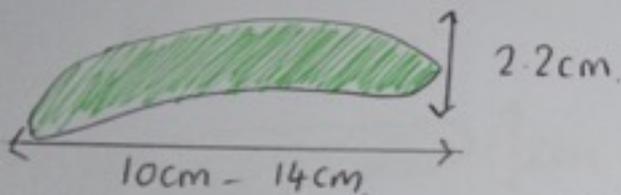
1m tall.

Oval Seeds
approx 1cm.
6-8 per pod.



Beans hang
'down'; parallel

4. 'Bunyards Exhibition'



Fat pods; boat shaped.

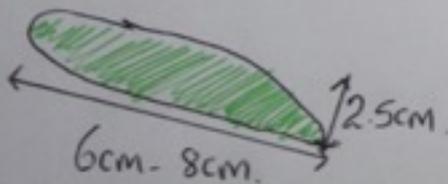
1.2m tall.

1.5cm.
2cm Kidney
Shaped beans
7-8 per pod.



Pods hang
down.

5. 'Media'



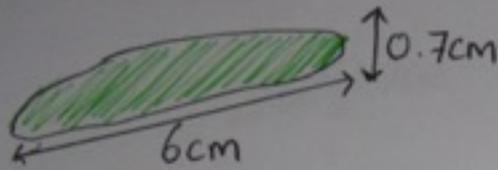
0.4m tall.

0.7cm -
1cm Oval
shaped.
5-6 beans
per pod



Pods 'upright'

6. 'Martock'



0.5 tall.

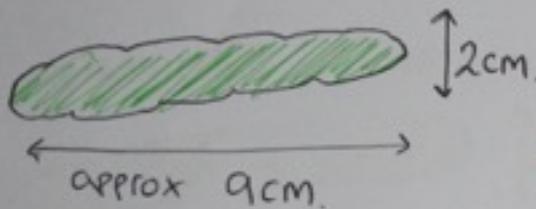


oval seeds
0.7cm approx
4 - 6 per pod.



very small pods
bunched upright
on stems.
very high yields.

7. 'Red Epicure'



1m tall.

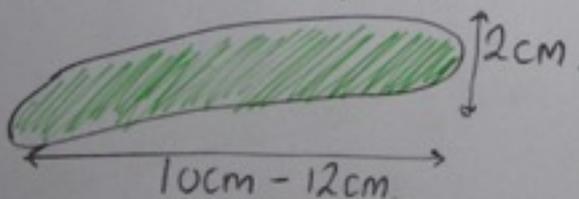


Kidney shaped
beans
approx 1.5cm.
mahogany
colour.
approx 6 beans
per pod.

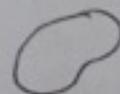


Pods hang
"down"

8. 'Jubilee Hyssop'



1m+ tall

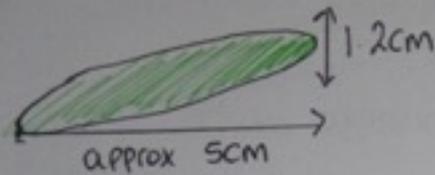


large 1.5cm
approx. seeds.
5 to 8 seeds
per pod.



Bunched
Pods
upright on
stems

9. 'Optica'



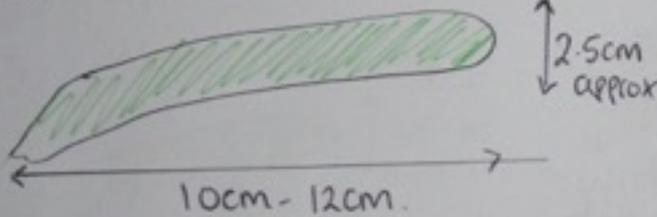
○
Oval 0.7cm
approx. Seeds
4-5 seeds
per pod.



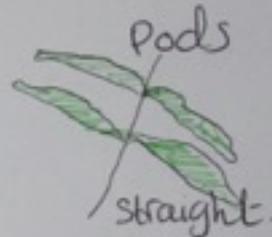
Pods
bunched on
stems.
Upright.

0.5m tall.
Very high seed yields.

10. 'Windsor' (Green Windsor)

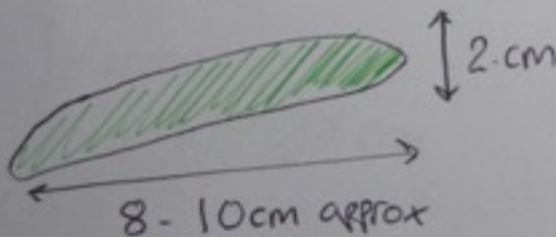


○
large 2cm approx
Kidney
shaped seeds "green"
6 seeds per pod

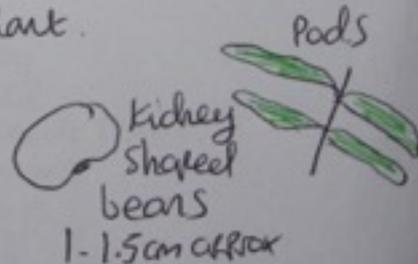


1.2m-1.5m tall.

11. 'Coles Dwarf' (Industry Standard)

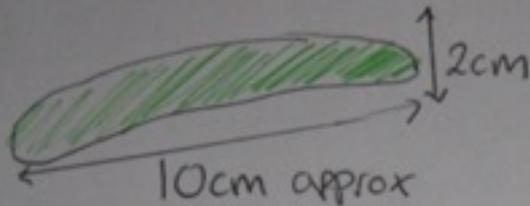


Nb. the "dwarf"
possibly refers to the
pods rather than the
plant.



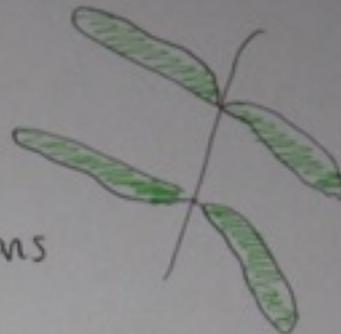
1m-1.2m tall depending on selection.

12. Aquadulce (Industry standard)



1.2m tall

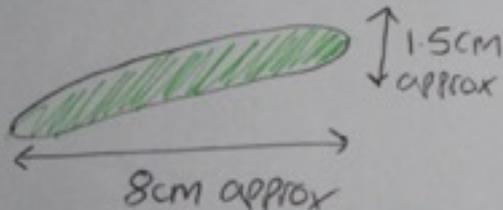
Kidney Shaped beans
1cm - 1.5cm approx
light brown.
8 beans per Pod approx



Pods Straight on Stems.

Other Cultivars

13. 'Purple flowered'



0.5m tall.



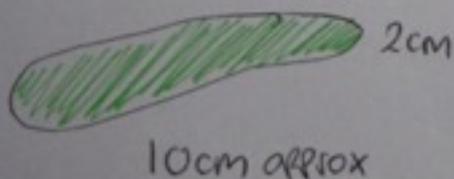
leaves "bunched" lightly

Wrinkled dark green "square" Seeds. 1cm.
6 per pod approx.



Pods Slightly downwards
grown 2014.

14. 'Karmazyn'



0.5m tall.

Kidney Shaped Pink seeds 1.5cm. turning brown with age

6 per pod. grown 2014.

Origins

No one knows the origin or at what date broad beans occurred, but they were cultivated from the middle- east across to Europe.

The English and Spanish did a lot of plant selection with broad beans. Today broad beans are found cultivated in many parts of the World.

Many of us owe our existence to the broad bean, they were once a vital part of the human diet, this meant that populations could grow and communities prosper.

Aquadulce

Dating from the 1850s with an Award of gardening merit from the Royal Horticultural Society) and Coles dwarf are what are termed industry standards, they are both excellent lines commercially grown.

The reason that there are so few cultivars available to home gardeners is probably because they are not economically viable to grow, the market is not big enough and many farmers argue that the taste of each cultivar does not differ much.

The availability of as many of the cultivars as pure lines is undeniably important, because we don't know when their genetic traits could be needed in the future. Plant breeding can be done with these lines to create new cultivars.

History

I had to resort to the internet for their histories, there is limited historical information. This is all I found.

Witkiem

RHS Award of Garden Merit 1995. Optica RHS Award of Garden Merit. Red epicure dates from 1894. Bunyards Exhibition dates from 1835. Windsor from 1700s. Jubilee Hyssop is an improved Windsor. Purple flowered, probably a chance discovery, 1700s.

Types

There are two types of broad bean: *Vicia faba minor*, or small seeded field type, and *Vicia faba Major* or large seeded type, these are the ones we favour to eat some are known as exhibition varieties.

There are early and late cultivars, some are very cold tolerant and some are less so, some flower very early some flower later, hence timing of sowing and regional importance. pick beans for eating in late spring/ early summer for all cultivars.

Early or late cultivars seem to grow well and produce beans in Tasmania from March sowing,

I have not had any finish flowering before bee activity starts in spring, (see section on seed sowing). I would probably get higher yields from exact sowings of early or late cultivars.

Some cold tolerant large seed producers include: Aquadulce, Pelon, Hylon, Imperial white, Windsor, White seeded Windsor, Green seeded Windsor, Bunyards Exhibition, Masterpiece, Express, sussex wonder, Red epicure, sweet Lorraine, Paramo (Andean answer to Sweet Lorraine) Aprovecho (Spanish line) Muchamiel, Jubilee Hyssop, Imperial green long pod, Leviathan, Mazagan.

Cultivars suitable for Spring sowing include Purple flowered, Medes, Ipro, Acme, Dreadnought.

Generally dwarf small seeded cultivars include: The Sutton, Royal Fan, Becks Dwarf, Bonny lad, Karmazyn, Martock, Optica, Spectra.

Others that do not fit into any group include The Spanish lines, Ramillete, Haba de burro and Cuareneva.

Broad bean cultivars at Inspirations.

We now offer pure lines of Purple flowered, Red Epicure, and the large seeded Paramo whose history is described fully in previous newsletters and is great for cold regions.

We also offer Aquadulce and Coles dwarf. Last year we grew in isolation quality pure lines of Karmazyn a pink seeded type.

This year we are growing Optica, a true dwarf small seeded type, hopefully for sale in 2017. They are \$5.50 a packet.

Martock

One history I did find interesting was about the broad bean Martock. This is a well written account by the Martock local history society.

A brief synopsis of this says that this is a pure line of a land race of small seeded field beans dating back to the 12thC grown for dried beans in the village of Martock, Somerset UK.

The heritage seed Library catalogue says it was rediscovered and preserved in the Bishop of Bath and Wells historic garden, it has small pods and white seeds probably not altered botanically due to isolation and adapted to local conditions.

In 1633 Gerard, the herbalist, wrote "*Martock seated in the fattest place of the earth of this countie especially for errable, which make the inhabitants soe fatt in their purses*" so the community grew healthy and wealthy because they were well nourished by crops grown on good land.

Seed sowing

Sow seeds in March to early September about 3cm to 4.5cm deep 15cm apart, in rows 30cm apart or in blocks. Paramo can be sown in very cold districts, the purple flowered cultivar seems to do better in milder areas or sow in late winter/ early Spring. All the other cultivars we offer can be sown in most regions and can tolerate frosts, but avoid cold waterlogged soils.

When sown in March to May early cultivars start flowering in winter, but will only get pollinated during bee activity, which happens around September so you will get lots of beans about October.

Some people prefer small sweet beans so pick them small every day, others prefer larger pods with big seeds which tend to taste a bit more bitter. Some grow them for exhibition as 'large' vegetables.

Plant protection

Most people have never heard of Norman Borlaug, he was the first agricultural scientist to win the Nobel Peace Prize, he identified that plants have immune systems that recognise microbial patterns.

This important observation has far reaching implications, it could be another agricultural tool to help feed a growing population and has only recently been revisited by scientists with laboratory controlled and field experiments.

Recent examples of study include concluding that a sick plant emits chemicals that alert healthy plant neighbours to come to its aid by releasing nutrients, and a broad bean plant infested with aphids in a crop emits chemicals to warn its neighbours of attack so they produce chemicals that repel aphids and encourage wasps, the natural predator of aphids.

Have you noticed that if your beans are grown in good nutrient rich soil with no weeds they rarely get eaten by slugs, insects, or suffer diseases? Plants are complex organisms and we have only scratched the surface of understanding them.

In poor nutrient deficient soil surrounded by weeds or if you sow diseased seeds, you may have a crop of beans that show symptoms of rust, chocolate spot or wilt. See newsletters on bacteria and fungi. Spray with copper based fungicide at first signs to help the plant, and please use COF or the equivalent and a liquid feed.

Mice and birds can be a problem, digging the seeds, so netting may be necessary.

Aphids can be destructive, especially if warm conditions favour an increase in populations, but healthy plants seldom get this problem.

Slugs rarely bother them, but you may want to put slug pellets down just in case.

Food

Broad beans can be used in recipes from all over the world in stews, curries, as a side vegetable with meat or fish, mixed with sour cream as a side dish, falafels, humus, or dried beans used as a snack and in Asian cooking. They freeze well.

Finally what to sow now in your garden.

Broad beans (last chance), Cabbage savoy Ace and King, sweet green, cauliflower, kale, broccoli, lettuces, Chinese greens, spring onions, broccollette, beetroot, chives, English spinach, silverbeet, parsley, parsnip, and many more. See our sowing guide.

Enjoy your garden
wherever you may be.

