

THE EDIBLE GARDEN

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EAT YOUR PEAS

Edythe Falconer
Master Gardener of Ottawa Carleton

Pisum sativum Honoured Member of Family Fabaceae

PEA HISTORY

Peas have been around for a long time – right back to the Neolithic era. The wild pea, originally found in the lands surrounding the Mediterranean Sea, and in the Near East – Greece, Syria, Turkey and Jordan, has been modernized and is now enjoyed around the world. Infants eat them in pureed form. The rest of us devise ever tastier ways of using them in our regular meals. Split peas, the dried version of this pulse, are wonderful in soups, all soups, but especially French Canadian Pea Soup. When we talk about pulses we are referring to leguminous plants or their seeds. The value of pulse crops worldwide is in the billions of dollars – annually!

Pease porridge or pease pudding is made by combining dried legumes with other vegetables and possibly bacon or ham, and cooking them into a mashed savoury and nutritious delight.

GROW YOUR OWN PEAS

A browse through one or more seed catalogues reveals the number of varieties currently available. Peas can be dwarf, medium or tall in height and maturity dates can vary from 50 days to as many as 75, depending on weather and location. You may choose to save your own seeds for next year's crop.

Mendel studied the following characteristics in peas: height, pod shape and colour, seed shape and colour and flower position and colour. He was interested in the transmission of these traits from generation to generation of pea plants. Modern hybridizers study these same characteristics in the interests of improving productivity and resistance to disease.

These round shiny little green orbs are the seeds of *Pisum sativum* and the pods that contain them are the fruit. The pea plant has a life cycle of one year. However canny gardeners have not only learned to juggle varieties that have different maturity dates in order to stagger productivity, but also to do succession planting with one or more favorite varieties.

Initially, because peas are a cool weather crop, they can be seeded as soon as the ground can be worked. An early start gives the plants time to get established before the onset of heat spells. If succession planting is planned, then a partially shaded area (naturally or contrived) is advisable as peas balk when subjected to excessive heat for any length of time.

To jump start germination it is a good idea to soak peas in water for a few hours or even overnight. Assuming that you've already prepared a 20.3cm wide trench to a depth of 20.3 – 25.4cm laced with compost and/or well-rotted manure, then you are ready to plant each seed to a depth 3 times its diameter and approximately 10cm apart. Distance apart may vary with the variety being used – for example dwarf plants. Finish this task by tamping the soil down and keep things moist but not wet from there on.

Double rowing refers to the practice of planting two lines of seeds quite close together. If the peas are dwarf or medium in height they may use each other for climbing purposes and



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Crazy for Kale

Judith Cox
Master Gardener of Ottawa Carleton

Kale (*Brassica oleracea*) comes in many shapes, sizes and colours. It is extremely nutritious and makes a stunning addition to an autumn garden.

Kale has been shown to be high in vitamin K and vitamin C as well as iron and magnesium. One cup of kale can be a very healthy addition to your diet.

Based on the nutrients found in kale, a lot of claims have been made about its health benefits. Kale contains an antioxidant known as alpha-lipoic acid which has been shown to lower glucose levels in diabetics, kale might be a new way to help control diabetes. It is also very high in fiber which is a definite way to improve insulin levels.

One cup of chopped fresh kale provides 329 milligrams of potassium, good food if you have high blood pressure. This same cup of kale also contains 550 micrograms of vitamin K which helps improve calcium absorption.

Kale is delicious as well as being nutritious. It can be added to smoothies and salads. It can be boiled and added to supper dishes or baked into kale chips for a crisp snack.

Kale is a very versatile plant; I have grown kale in a vegetable garden, in pots and in flower beds. There are highly decorative kales that shine like roses with the sedum and rudbeckia in a fall garden but they are not as tender for the table. There are dwarf blue kales that sparkle in a salad and larger leafy kales that add lots of nutrients to a smoothie.

Kale is easily grown from seed. It can be started early under lights before the growing season, allowing you to harvest fresh kale for your recipes. Kale needs cooler weather to germinate and their strong colours show in the cooler temperatures of autumn. To maximize bright colours in your fall flower garden it is better to direct sow your kale near the end of May. The most commonly grown kale is Scotch or

save you the task of erecting sturdy supports. Pick peas as they mature. Eat out of hand or in salads or freeze some if you have a heavy crop.

Or pick peas when they are immature and both fruit (pod) and seed (pea) can be eaten raw or sautéed. Sometimes these are called Snow Peas.

SUPPORT YOUR LOCAL PEAS

Peas that are tall will need support. Chain link fences are often at hand and remain in place year round. Temporary support can include sticks, scrap lumber, netting, and frames from which the peas can be gently drawn up. Trellises and lattices of one kind or another make excellent supports.

WHY EAT PEAS

Green peas contain sugar and starch. They also contain phytonutrients. One of these, coumestrol, is used in research re stomach cancer prevention. The daily consumption of green peas along with other legumes may lower the risk of stomach cancer, especially when daily intake is 2 mgs or higher. Since one cup of green peas contains at least 10 mgs it's easy to obtain this benefit. Peas also provide key antioxidant and anti-inflammatory benefits.

Peas are a "nitrogen fixing" crop. With the help of bacteria in the soil, peas and other pulse crops take nitrogen from the air and convert it into forms that benefit plants. The shallow root system of peas helps prevent soil erosion. If, after the final harvest, peas roots are left in the ground they break down and enrich the soil. Rotating peas with other crops has been shown to lower the risk of pest problems over time. Ergo, peas are environmentally friendly, good for the soil and good for us.

Pisum sativum is not to be confused with Lathyrus or Sweetpeas. Sweet peas are not legumes and they are not edible – not any part of them. They are poisonous. They are strictly ornamental.

PEA STORIES

An early memory re peas involves marauding cousins munching their way through our pea crop consuming all along the way. Another one has to do with pea shooters and the ensuing battles then conducted.

Nothing tastes better than a freshly picked pea! I have long ago forgiven the transgressions of those dear cousins???

Parasitoid Wasps

Nancy McDonald
Master Gardener of Ottawa Carleton

Order: Hymenoptera: Superfamily Ichneumonoidea (2 families, Braconidae, Ichneumonidae); Superfamily Chalcidoidea (19 families locally)

Gardeners hearing the word wasp often think this is an undesirable insect to have in the garden. The parasitoid wasp discussed here is very beneficial to your garden. Most parasitoids are tiny (0.3 mm to 4 mm. long) and that is why you may not have noticed them in your garden but I assure you, they are there! Good to note that a few Ichneumonid wasps are large (up 35 mm without the ovipositor).



Parasitoid Wasp
Nancy McDonald

The Braconid wasps are small (2 to 8 mm), usually black with abdomen the same size as their combined head and thorax. They are described as stout whereas Ichneumon wasps are more slender and usually larger. The Ichneumon female wasps have an ovipositor usually longer than their body. They vary in size (3 to 35 mm) and colour. On quick glance when I noticed the Ichneumons in my garden, they resembled ants with two sets of wings and were very busy sensing with their antennae. Both Braco-

Scotch curled which resembles cabbage. The Siberian kale (*Brassica napus*) is closer to rutabagas. The beautiful ornamental kales are not as tasty.

Flowering or Ornamental kale is best grown in pots or featured in a flower bed. They are large and frilly in colours of yellow, cream, white, rose and lavender. Plant kale seeds in a large planter with pansies and nasturtiums and see how they come into their own later in the season. Kale looks amazing when it's mass planted in a flower bed or when their purple hues are focused as an edging for golden rudbeckia; a stunning contrast.

While the crisp leaves of Scotch blue kale are familiar to those using fresh kale in the kitchen and the frilly rosettes of kale are welcome in the fall garden, why not try some of the heritage varieties? One of my favourites is Black Tuscan Palm Tree kale (Lacinato, Dinosaur). It is spectacular, growing up to 3 feet in height. It has really dark leaves but they are not frilly like the ornamental kale and it tastes delicious.

This would be a good year to try a row of nutritious kale and perhaps add a few bursts of colour into your flower bed.

RECIPE FOR KALE CHIPS

Remove the rib or spine of the kale

Toss in olive oil

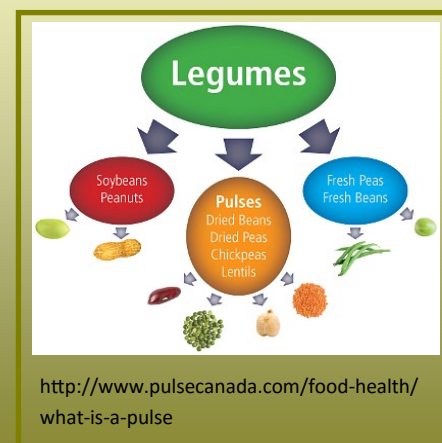
Sprinkle with your favourite spice

Bake at 275°C for 15 to 30 minutes or until desired consistency

Move over Quinoa—2016 is the Year of the Pulses

Dale Odorizzi
Master Gardener of Lanark County

Vegetarians and Vegans have long known the value of pulses and with the United Nations declaring 2016 the International Year of Pulses, many more of us are becoming big fans.



Pulses are annual legumes harvested solely for dry grain or oil extraction. Dried beans

nids and Ichneumonids have long antennae used to detect their prey. Chalcids are dark coloured, metallic blue or green in colour and are the tiniest (usually less than 3 mm) of the three. Entomologists distinguish these three by the differences in wing venation. It should be noted that in some species of Chalcids wings are very small or absent.

So what makes these parasitoid wasp species a good thing in your garden? Most of these tiny wasps do not sting you. Rather what appears to be a stinger is an ovipositor used to deposit eggs in or on larvae or pupae. Some species deposit their eggs into eggs. It is a scenario akin to a classic science fiction movie! The eggs deposited by the female parasitoid wasp hatch and grow by devouring the host. Physiological adaptations of the parasitoid such as accompanying viruses suppress the immune system of the host rendering it weakened and unable to fight this assault. Eggs and larvae of garden pests such as cabbage loopers, cutworms, tomato hornworms, aphids, scale insects, mealy bugs and whiteflies are destroyed.

Entomology Today has videos demonstrating this parasitoid activity:

<http://entomologytoday.org/2013/09/17/videos-of-parasitoid-wasps-and-their-caterpillar-hosts/>

As well as decreasing garden pests, parasitoid wasps are widely used as biocontrol in commercial agriculture and in forests. Recently there have been two parasitoid wasps from China introduced in Ontario in an effort to control the Emerald Ash Borer (*Argrilus planipennis*), an invasive species from Asia. The *Tetrastichus planipennisi* parasitoid feeds on the larvae and the *Oobius agrili* lays eggs inside the eggs of this pest. The leek moth (*Acrolepiopsis assectella*) an invasive species from Europe is an emerging pest to *Allium* spp. crops in eastern Ontario. Trials of a parasitoid wasp *Diadromus pulchellus* also from Europe were conducted in the Ottawa area from 2010-2012 as a possible biocontrol for leek moth. Beneficial wasp control (*Tetrastichus julis*) is being used in Western Canada to control the cereal leaf beetle (*Oulema melanopus*). It is fascinating to read of the research in biocontrol utilizing parasitoids and the monitoring that is in place as well as ongoing education on utilizing parasitoids as part of an integrated pest management strategy. One almost breaks out in the childhood song “there was an old lady who swallowed a fly...” when reading of the field studies of university students, scientists and citizen scientists monitoring larvae for evidence of parasitoids.

A wonderful local resource to help identify garden insects is the Fletcher Wildlife Garden. Take a look at their photo gallery:

http://www.ofnc.ca/fletcher/flora-fauna/insects/index_e.php

For the gardener it is important to remember that parasitoids are harmed by using chemical control products (organic or inorganic). The Edible Garden Newsletter, June 2015 provides more information on attracting beneficial insects such as parasitoid wasps to your garden: http://mgottawa.ca/media/TEG_June151.pdf

I encourage you to identify the parasitoid wasps in your garden and continue to attract them by providing water, shelter and very good nectar producing flowers e.g., (umbellifers and composites). Take the time to search the web using key words: Ichneumonidae images, Braconidae images and Chalcidoidea images and your recognition of these wonderful garden visitors will increase.

Need help? Contact us at:

Telephone Help Line, Wednesday and Thursday 1–3 pm (all year) : 613-236-0034 -

Ottawa E-mail Help Line, monitored daily : mgoc_helpline@yahoo.ca

Lanark E-mail help Line: lanarkmg@gmail.com

Watch for Trowel Talk the Master Gardeners of Ottawa Carleton electronic monthly gardening newsletter available on the 15th at <http://mgottawa.mgoi.ca/>

Visit the Almonte online community newspaper ‘The Millstone’ - <http://millstonenews.com/> -for a column by David Hinks of the Ottawa Carleton Master Gardeners; under the Gardening tab

Master Gardeners of Ottawa-Carleton and Master Gardeners of Lanark County are member groups of Master Gardeners of Ontario Inc., a registered charity with the mission of providing gardening advice to homeowners The Edible Garden logo was created by Jon Last (jonlast13@rogers.com)

are considered a “pulse” while green are not. Pulse crops such as lentils, beans, peas and chickpeas are a vital source of plant-based protein and amino acids and should be eaten as part of a healthy diet whether or not you are a vegetarian or vegan. Pulses are very high in protein and fibre and very low in fat. They are a delicious addition to any diet and contain minerals such as iron, zinc and phosphorous as well as folate and other B vitamins. They help address obesity, and help prevent and manage chronic diseases such as diabetes, coronary conditions and cancer. They are good for us and with nitrogen-fixing properties they increase soil fertility. What’s not to like about them!

Canada produces about 80% of the world pulse crop, primarily in Saskatchewan. Fortunately, Ontario gardeners are able to grow many Pulses in their home gardens. They grow much like beans or peas but require a much longer growing season—100+ days.

You can prestart your seeds and plant seedlings or start them directly in the garden. Add aged compost to the bed prior to planting. They take about 10 days to germinate at 20°C. They require full sun and loose well draining soil. Keep the plants evenly moist. Do not water your pulses once the pods begin to dry. Side dress the plants with compost tea when they are 12 cm high and again when they flower. Support the plants with a low trellis or thin the plants until they are about 12 cm apart to ensure ample air circulation. Protect early crops from pests and frost with row covers.

Harvest the pods when they have matured and hardened. Leave the pods unshelled until you are ready to use them and store in a dry place. Hanging the pods helps to keep them dry. You can also put your pods in the dryer and dry them on a low heat for 20-30 minutes. This will ensure they are dry. Then shell the pods and store the beans, lentils or chickpeas in glass or plastic jars.

You can also save your seeds for next year. Just pick the dried pods at the end of the season. There is no point in picking green pods as the seeds are not mature enough at this stage. If you do want to save your seeds to grow plants next year, skip the above dryer tip. Drying them in the dryer will prevent them from germinating again. Your stored seeds should remain viable for 5 years.

To get started, take the 10-week Pulse Pledge Challenge, brought to you by Pulse Canada. The plan is simple. Eat pulses once per week for the next 10 weeks. By the end of 10 weeks, you will likely be hooked on pulses.