

THE BIGNESS OF BEANS

By Dan Jason

I was asked to write this article on pulses shortly after COG's new (and awesome) *The Organic Companion** arrived in the mail with an article I had written on legumes in 1993. How interesting for me to compare then and now!

During all the time in between, I've been promoting lentils, soybeans, chickpeas, soup peas, baking beans, fava beans and runner beans through my mail order seed company, Salt Spring Seeds. I've mailed thousands of seed packets to farmers and gardeners across Canada while continuing to grow them for my family and the Salt Spring Centre. I'm more enthused about them than ever and I'm very pleased that so many other growers are sharing my enthusiasm.

My zeal for pulses these days is such that I fantasize growing them on a scale larger than the few acres I've been cultivating so far. I want to see how farming fifty to one hundred acres (20–40 hectares) of various beans would work towards feeding a local community. I'm looking for other farmers to join me in such a venture on Salt Spring Island.

There are two sides to my current passion to grow more beans. On the one hand, they are such easy, reliable crops, beneficial to both humans and the land. On the other hand, beans might soon become our most realistic survival food. It's going to become much more costly to transport food long distances and it also looks as though (scary to watch) the beef and poultry industries are in a process of self-destruction.

* *The Organic Companion: Gleanings from Canadian Organic Growers* is now available. A review is on page 50 and ordering information is on page 33.

Pulses are indeed substantial foods that can be a crucial part of a sustainable diet, as they have already been for many cultures across the globe. They are hardy and carefree yet they enrich the soil, thanks to the ability of their roots to fix nitrogen. My customers all agree that what stands out about homegrown beans more than anything else is their flavour and digestibility compared to the beans in stores. The eating quality of pulses deteriorates over

time and the beans that are available on grocery shelves are often a few years old. Once people see their own harvest of bright, lustrous beans and experience their eating qualities, they are hooked.

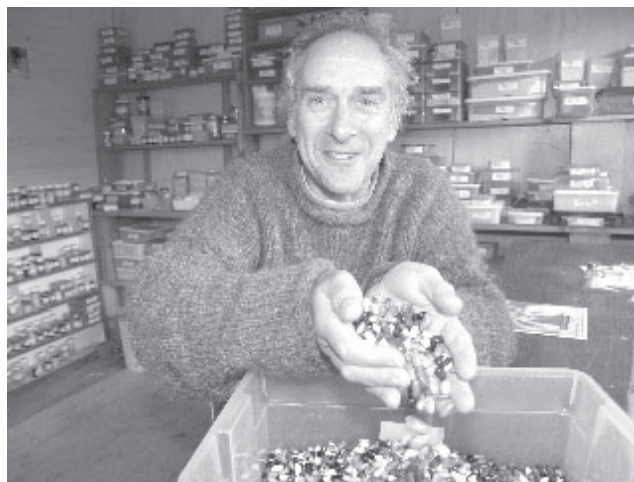
Growing pulses

In my world of seeds, beans are noticeable for their bigness. Beans are easily a hundred times the size of most of my other seeds. Planting, mulching, harvesting and eat-

ing them generate a solid, substantial feeling. When you sow them in the ground, a dozen seeds cover a lot of territory. When you mulch around the stalks, you don't have to worry about burying baby plants. When you pick and clean them, there's no mistaking the seeds for anything else.

Before planting

Because of the way they germinate and grow, pulses are rarely started in pots and transplanted. It can be done if you're careful not to disturb the root but you'd need large pots. Some growers soak bean seeds



"Beans are beautiful to see and wonderful to have in your hands," according to Dan Jason.

beforehand and plant them the next day or even after the sprouts show. Because beans are such large seeds, if they were direct sown in dry soil and not watered, they could take weeks to soak up sufficient soil moisture to get growing. So presoaking can sometimes give you a jump on the season. However, the seed coat becomes more vulnerable as they swell up with water, so planting presoaked seeds has to be done with care to not damage the seed.

I'm more enthused about them than ever and I'm very pleased that so many other growers are sharing my enthusiasm.

Beans are very easy to grow. Though they are at their best in moderately rich soil, they do well in a wide range of soils, even without fertilizer. In especially acidic soil (below a pH of 6.0) the addition of wood ashes, dolomite lime or compost will, by their alkaline nature, moderate the acidity. In a very sandy soil that leaches nutrients easily, nitrogen should be added, but bear in mind that too much nitrogen will promote excessive leaf growth, as well as delay and reduce pod production.

Sowing

I always direct sow my beans. Watching for the right temperature and soil conditions is never an onerous task. Here in the Gulf Islands of BC, it is usually warm enough by mid-March for me to plant peas, fava beans and lentils. Garbanzos are another cool sea-

son legume that can be sown soon after the ground is workable. In warm years, I sometimes seed my soybeans and regular soup and chili beans by mid-May, but I usually wait until the end of May or beginning of June (when most Canadians plant pulses).

I use a simple push-along, two-wheeled row seeder in rototilled soil. These are easily bought for around \$100 and enable you to plant your rows as quickly as you can walk. The bean plate spaces seeds about four inches apart (10 cm) which means some thinning will be required after the plants emerge. You can adjust the depth to which the seeds are planted and I usually set that to about three-quarters of an inch (2 cm). The soil is never perfectly even, which means that some seeds end up closer to the surface than others. Whether sitting almost exposed or being buried over an inch (2.5 cm), most beans seem to get on with their life.

If you are sowing pulses by hand, the easiest rule is to plant them about an inch deep, except for peas, which can be sown at half that depth. I space most of my legumes a foot (30 cm) apart to allow them to spread with good air circulation. Peas are fine with six-inch (15-cm) spacing. I plant my rows at least a foot apart, depending on how I set up the growing beds. One advantage of planting by hand (again, thanks to the bigness of beans) is that no beans are wasted and no effort is required to thin them.

Mulching

I always mulch my pulses except when I am using them as a cover crop, in which case I plant them thickly and let them serve as their

own living mulch. I've found, over the years, that it's best to leave the soil uncovered for the first three or four weeks: the dark, exposed soil absorbs heat and gets the beans off to a faster start than if they are mulched.

It is easy to tuck mulch around the base of month-old bean plants and to bury most of the weeds that have emerged with the mulch. The mulch then keeps the moisture in the ground, suppresses further weed growth and moderates soil temperature. I usually use hay or straw and pile it on three to five inches (8–13 cm) deep.

With the beans mulched, they usually do not need any attention until they are ready to be harvested.

With the beans mulched, they usually do not need any attention until they are ready to be harvested. Pulses are very drought-resistant: even unmulched, they rarely require water except in very hot dry spells.

Harvesting and threshing

Pulses produce their seeds in pods. Seeds are ready to harvest when the plants dry down, the pods become brittle and you can't mark the seeds with your fingernail.

Bean pickers soon become aware that hot summer days can sometimes cause dry pods to crack open and drop seeds on the ground.

Shelling bean seeds is the most time-consuming part of growing pulses. Shelling beans by hand is



Dan Jason and a selection of Salt Spring Seeds.

an enjoyable, satisfying event to do with some help and some conversation. Beans are beautiful to see and wonderful to have in your hands.

My own threshing practice is, of necessity, fast and efficient; it is one I've used for over a dozen years. I get into my two-foot by three-foot (0.6 x 0.9-m) wooden threshing box and stomp the pods with my feet. There are thin wooden slats criss-crossed on the bottom for extra abrasion. When the pods and seeds are sufficiently dry, the pods easily release the seeds and the seeds are safe from damage.

If you shell beans by hand, you are already separating them from their pods. With other threshing methods, you need to somehow blow or screen the chaff away. I use the air nozzle attachment on my air compressor to quickly blow away the broken pods. Another way to clean seeds is to put them briefly in a container of water. Skim off the chaff and the non-viable seeds that float to the sur-

face, and allow the beans to dry again on screens.

Pulses should be kept cool, dry and out of direct sunlight. It is good to open their containers occasionally to allow for a change of air.

Kinds of pulses

Peas

Most gardeners know about fresh-eating pole peas as well as fresh-eating bush varieties. Climbing varieties make much more efficient use of space as they can produce peas as high as you can reach.

It is not so commonly known that many pea varieties make excellent soup peas. Apart from the delicious varieties bred as dry peas, all the edible pod peas I have tried double as both delicious soup and stewing peas. Peas can be planted as soon as the soil can be worked in the spring.

Chickpeas (garbanzo beans)

Chickpeas, also known as garbanzo beans, are another cool-weather legume but they require a longer growing season than peas. I usually plant them early in May and harvest them in late August. Their seeds come in shades of brown, black, red, green, orange and beige. Plants spread to a couple of feet wide, have pretty, lacy foliage and produce hundreds of little bladder pods per plant, each with one or two seeds. There are no climbing varieties of garbanzos. A hundred foot (30 m) row can produce over twenty pounds (9 kg) of seed.

Fava beans

Favas (also know as faba or broad beans) are best grown in areas that have extended springs, as they don't do well in heat. Seeds ripen

unevenly over many weeks, which makes them a difficult crop for commercial production but fine for the home garden. There are both large-seeded and small-seeded cultivars and the seeds come in many colours, including vibrant purple. As a dry bean, some varieties are much more delicious and digestible than others. My favourite is the small-seeded Bell bean. Fava beans grow four to five feet (1.2–1.5 m) high and sometimes need staking in windy gardens. They are hardy enough to survive some winters here on the West Coast.

In terms of healthy bodies and a healthy planet, the bigness of beans is soon to be seen and appreciated.

Soybeans

The black, brown and green soybeans that I maintain are much tastier than the yellow cultivars I have tried. Soybeans are very high in fat and protein; when cooking them as a dried bean, a handful of them makes for a substantial meal. Since I started Salt Spring Seeds, I've been telling people it makes a lot of sense to eat them whole instead of processing them into soymilk, tofu or tempeh.

Soybeans need to be planted when the soil has really warmed up. They aren't ready to harvest until September, unless you're picking them as edamame beans when the green pods are plump with seeds. Soybeans grow into bushes about knee-high and produce about ten pounds (4.5 kg) of seed per hundred-foot (30-m) row.

Chili and baking beans

For some reason, I call these “regular” beans, probably because I grow so many different varieties of them. There are bush and pole cultivars, as well as some varieties that have long twiners but don’t really climb. There is an incredible diversity of colours and patterns with these beans. I love to have school kids come to the garden in September and find all the hidden treasures I’ve left for them. Bush bean varieties grow about knee-high and the most productive cultivars yield about twenty pounds (9 kg) per hundred feet (30 m).

Runner beans

Runner beans are climbing beans that are treated as annuals in temperate climates but are perennials in subtropical areas. They produce long pods and the large beans are delectable as shell beans or dry beans. They need some heat to get going but then they can tolerate cooler conditions than regular beans and soybeans. They are prolific producers.

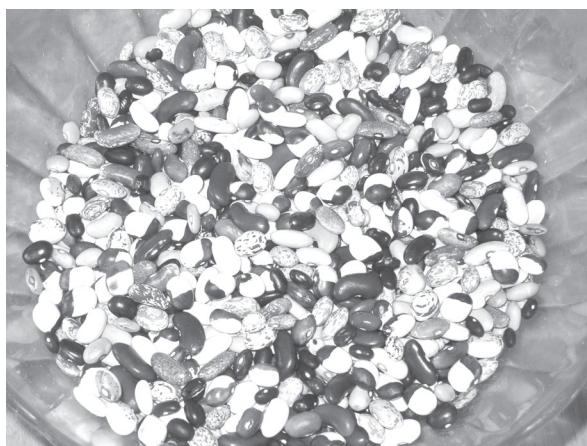
Lentils and limas

Lentils like it cool and limas like it hot. I’ve tried many cultivars of both of these over the years and have yet to find productive cultivars that do well in my garden.

Pulses in the garden

Legumes can fix their own nitrogen from the air through the action of the rhizobial bacteria that live in nodules on their roots. I’ve often planted pulses in the same place for two and sometimes three years. (I wouldn’t do this if there were any signs of diseases or pests

in the beans.) I usually get much higher yields in succeeding years. When you pull up a bean plant the second year, you can observe many more nitrogen-fixing nodules attached to the roots. In a new garden (or if you haven’t grown pulses before), it’s worth coating your bean seed with an inoculant containing the proper type of rhizobium, carried at most garden



Salt Spring Seeds’ heritage bean mix, as grown in Nova Scotia.

shops, to ensure their presence. (Note that some brands of inoculants may contain genetically modified ingredients.) Once these bacteria are in the soil, they multiply rapidly and persist for a few years after pulses have been grown. [Ed. note: See details on nitrogen fixation and inoculants on page 34–36.]

Because of their ability to enrich the soil with nitrogen, pulses are excellent to use as cover crops and in rotation schemes.

Outlook for pulses

Beans are high in protein, thiamine, niacin, B-6 and folic acid as well as calcium, iron, phosphorus and potassium. The fibre in beans helps keep the digestive system clean and promotes regularity.

Degenerative diseases are almost unheard of where diets include large quantities of beans and other fibre foods. Beans are a boon to diabetics, hypoglycemics and those on weight-loss diets. Only two to six percent of the calories in beans are derived from fat, in contrast to 75 to 85 percent for meat and cheese. Not only are they cholesterol-free, beans don’t trigger a rise in blood sugar or require that the pancreas pour out extra insulin to readjust the glucose level in the blood. Dry beans don’t have to be refrigerated, frozen, canned or packaged in plastic. Between 22 and 44 times less fossil fuel is required to produce beans rather than meat.

The recent rise in popularity of dried beans is bound to accelerate as more and more people discover how tasty and digestible they are when you grow your own. In terms of contributing to healthy bodies and a healthy planet, the bigness of beans is soon to be seen and appreciated.

Dan Jason is President of the Seed and Plant Sanctuary for Canada, www.seedsanctuary.com, and the owner of Salt Spring Seeds, www.saltspringseeds.com. He is the author of eight books on organic growing and whole foods cooking. His newest book (Feb. 2006) is Saving Seeds As If Our Lives Depended On It.

Photo credits: Derrick Lundy and Janet Wallace (bean shot)

BEAN CUISINE

These three recipes are from Dan Jason's *Salt Spring Seeds Cookbook* (1993).

Mixed Bean Salad

The colours, textures and freshness of homegrown beans are really brought home when you mix different varieties in salads. Certain dark-coloured beans such as Dark Red Kidney or Black Coco retain their colour well and serve as a striking visual contrast when mixed with white kidneys. Some bi-coloured ones, like Aunt Jean's, keep their two tones.

It is important not to overcook beans for salad making or you end up with undifferentiated mush. I find that simmering 50 minutes is just right for almost all of [Salt Spring Seeds'] varieties. Soybeans, garbanzos and Cave beans take 20–40 minutes longer. Different bean varieties should be cooked separately and mixed afterwards. This is especially important for black beans which stain other beans purple.

½ cup	Black garbanzos, Black Turtles or Black Jet soybeans
½ cup	Jacob's Cattle, Maine Yellow Eye or Soldier beans
1 cup	Dark Red Kidneys
½ lb.	green beans, sliced*
2 Tbsp.	oil
½ lb.	mushrooms, sliced
1 small	mild onion (or shallots), sliced into thin rings then cut into small crescents
¼ cup	parsley, minced
2 cloves	garlic, pressed or chopped fine
1/3 cup	apple cider vinegar
1/3 cup	olive oil
2 Tbsp.	honey
½ tsp.	sea salt
	freshly ground pepper

Soak and cook the dried beans separately.

Steam the green beans.

Sauté the mushrooms in two tablespoons of oil.

Blend the garlic, vinegar, oil, onion, salt and pepper.

Mix and toss all ingredients and marinate at least an hour before serving.

Serves 8.

* A couple of sweet red or green peppers, chopped and briefly sautéed with the onions, are a substitution for green beans. Thinly sliced celery is another option.

Ful Medames Variation

3 cups	cooked fava beans
1 cup	water
2 cloves	garlic, minced
¼ cup	lemon juice
1 tsp.	ground cumin

Dressing:

½ cup	tahini (sesame paste)
¼ cup	water
2 Tbsp.	lemon juice
1 clove	garlic, minced

Combine fava beans and water. Mix in garlic, lemon juice and cumin. Simmer 25–45 minutes or until beans are soft and creamy.

Combine dressing ingredients.

Place beans in individual serving bowls. Stir in dressing to taste. Sprinkle with cayenne pepper. Pour olive oil over beans to cover. Allow to cool.

Serve tomato, green onion and parsley for individual garnishing.

Soy-Grain Burgers

1½ cups	dry soybeans, cooked until soft
1 cup	cooked millet or brown rice
2 Tbsp.	onion, chopped
2	eggs, lightly beaten
1 tsp.	whole wheat bread crumbs
¼ tsp.	paprika
2 Tbsp.	parsley, chopped
½ cup	wheat germ

Mash the soybeans and mix with all ingredients except the wheat germ.

Form into five or six patties and roll them in the wheat germ. Broil until lightly brown or bake on a baking sheet at 350°F for 35 minutes.

Add other seasonings for more exciting tastes: chopped celery or lovage leaves; cumin; sage; thyme; garlic; mustard.

Black Bean Express

The hearty taste of black beans is complemented rather than camouflaged by the ingredients in this simple recipe.

1 cup dry black beans
 1 Tbsp. cooking oil
 1 tsp. ginger, freshly grated
 ½ tsp. cumin
 2 cloves garlic, chopped fine
 3 leeks, chopped
 1 Tbsp. miso
 1 tsp. molasses
 ¼ cup parsley, chopped

Soak the beans overnight or for a minimum of 4 hours. Cover beans with at least twice the volume of fresh cold water, and add oil. Heat to boiling and simmer for 1½ hours.

In a skillet over medium heat, cook the ginger, cumin and garlic for several minutes. Add leeks and sauté until golden.

Dilute the miso in a small amount of warm water and combine with the molasses.

Combine everything with the drained beans and cook on the stove for 20 minutes. Shortly before serving, stir in parsley. Serve with a cooked grain.

Serves 4.

From *Living Lightly on the Land: Self-reliance in Food & Medicine* by Dan Jason, 1998.



The beautiful Sequoia bean has a deep purple colour.

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