

brought to dry under cover on drying racks or laid out on a plastic cover like mypex.



**Threshing:** The seeds are beaten off the stems into sacks and a fine mesh can be used to sieve the material separating the seeds from the feathers. Since the seeds and the stem and feather material weighs the same a careful job is required of the sieving.

For larger scale and bulk seed cleaning the seeds are run through a seed cleaner. When growing larger seed quantities SHS\* can help to facilitate bulk cleaning and grading.

Once seeds have been cleaned and graded they should be stored in paper bags and labelled well.

**Seed to seed method.** The lettuce crop is raised as for positive selection. Instead of selecting positively for the elite plants, a negative selection of roguing out any inferior and slower to grow plants is carried out including early bolters. 10 – 20 % of the crop is rogued at the cut off point of harvest with the remaining best plants standing in situ. In this way no transplanting to another location is needed. The crop can as well be raised

outdoor as in a greenhouse but it is important if raising a crop outdoors to erect a structure over the crop to prevent the flowers and seeds from being rained on, which will impair the seeds. (See photo on front page).

The seed to seed method will give standard seed which is what is sold in seed packets.

There are 1000 seeds to the gram. Seed yield per sq meter from 50 – 70 grams.

For more in detail information see also: The Organic Seed Grower by John Navazio. ISBN 978-1-933392-77-6

### **\*Seed cooperative**

[www.seedcooperative.org.uk](http://www.seedcooperative.org.uk)

To support the seed cooperative become a share owning member. Minimum shares are 100 at £ 1 per share. We are looking for certified organic growers to join our seed grower's network. To grow for the seed cooperative please contact us at,

[info@seedcooperative.org.uk](mailto:info@seedcooperative.org.uk)

[www.open-pollinated-seeds.org.uk](http://www.open-pollinated-seeds.org.uk)

## **Growing lettuce for seed**



### **Using open pollinated varieties**

**Lettuce:** Lactuca Sativa from the latin lac or milk and sativa meaning cultivated . The lettuce probably stems from the wild type Lactuca serriola which is found throughout southern Europe, Asia and North Africa. It was used already in ancient Egypt and was popular with the romans who used it for medicinal purposes and who also brought it to the British isles. By the 16<sup>th</sup> century head lettuce had been developed and by the 17<sup>th</sup> century various types had appeared including the known oakleaf and different shades of green and red lettuces. Today it is a very important and popular crop.

**Flower biology:** Lettuce varieties are perfect flower plants which carry stigmas and pollen in the same flower. The flowers are predominately yellow.

**Pollination:** Lettuce are self pollinated and wont readily cross with wild and other cultivated varieties. During anthesis ( maturation of anthers and stigma's) the flower is closed leaving only part chance for any crossings between varieties. Lettuce is an annual plant flowering and producing seeds in the same year.

**Isolation distance.** Since lettuce is a self pollinated crop only short isolation distances are needed. Generally speaking a few meter's between varieties is necessary when another flowering crop is separating them.

**Minimum number of plants.** Maintaining genetic diversity is relatively straight forward selecting a good 2 - 3 plants. However it is always advisable to grow seed of more plants.

**Crop characteristics:** There are five types which concern us in our northern climates. These make up head lettuce of butter heads, crisp heads, and batavian which are known for the forming of 'heads' with degrees of firmness: Coz or Romaine lettuces are known for their smaller and more compact sizes and loose leaf lettuce for the type where individual leaves can be harvested. It is important to adhere to the individual true to type characteristics associated with each kind of lettuce variety.

**Agronomy.** Good seed depend on good crop production and good crop production depends on suitable soil, soil moisture and soil preparation. Lettuce can be sown direct in the soil or in trays to be transplanted later. Sowing direct requires being able to get onto the soil relatively early in the season. So an early sowing in trays is

recommended seeing that lettuce is an annual, requiring sufficient time to go through both the vegetative and reproductive stages in one growing season. Sowing in trays and transplanting will allow the full development of the actual lettuce and time for the lettuce to bolt and produce flowers and seeds.

**Positive selection:** Already at seedling or 4<sup>th</sup> to 6<sup>th</sup> leaf stage can the first selection be made on germination vigour and true to type plants. The second point of selection is at lettuce harvest time choosing only the best and healthiest growing and true to type plants. Any lettuce, which show signs of disease and too early bolting should be pulled or rogued out.

The selected plants are then dug up with a good deal of soil round the roots and transplanted into a greenhouse or to another outdoor prepared site. The planting needs to be 30 - 45 cm between plants in the row and 76 – 90 between rows. Overhead watering can be used during the vegetative stage shifting later to drip feed irrigation during the reproductive stage so as not to causes loss of seeds. Also hoeing should be shallow around the roots since these lie close to the surface and are easily disturbed. Positive selected plants yield **elite seeds**.

**Emergence of seed stalk:** It may take a while for the seed stalks to break through especially on head lettuce and there are different methods which can be used to encourage the proper bolting process. Making a cut in the form of a cross on top of the lettuce with a sharp knife aids the stem to break through. (This is called

lancing). Also removing several layers of leaves from a crisp head variety is common to allow the center shoot to push its way through.



**Support:** Place strong canes at either end of each row and every 6 ft in the row. Depending on variety some plants may require individual canes with string tied round the whole plant.

**Seed harvest:** The flowering of lettuce can go on for several month as the flowers are indeterminate. This means the seeds mature accordingly being mature about 2- 3 weeks after flowering. The best seeds come from the early flowers and seed harvest is done manually over several weeks starting usually in late August. The mature seeds produce little light feathers which is a sign that the seeds are ready to 'shed'. The first seeds are harvested by bending the plant gently and shaking the seeds into a paper or cotton sack. This is done several times and once about 50 % of the seeds are mature the plant is cut and