

Scorzonera hispanica - a European vegetable



Scorzonera belongs to the daisy family and is a native of central and southern Europe. It is naturally a hardy perennial, but it is usually grown as an annual or biennial. It was not cultivated in Europe until the late sixteenth and early seventeenth century. Since then it has become part of European cuisine as an ingredient in salads or as a cooked vegetable. The roots of scorzonera may also be used as a coffee substitute

Belgium is probably the largest scorzonera producer (around 2000 ha/annum), but the Netherlands and France are also important producers in western Europe. Scorzonera is often confused with black salsify or black oyster plant (*Tragapogon porrifolium*), which is a different species in the daisy family. They are virtually interchangeable in recipes.

Uses

The black-skinned, white-fleshed roots of scorzonera are used as a cooked vegetable and the young leaves can be used in salads. Scorzonera roots have also been used as a coffee substitute in the same way as chicory. The roots are peeled before cooking, causing the flesh to bleed, which can stain. Some cooks wear gloves or clean the roots under water. Scorzonera has a subtle, delicate,

sweet flavour that many may find too bland. It has been described as being asparagus-flavoured but others have likened it to the flavour of artichoke heart.

Scorzonera is dominantly used fresh but it can be processed for bottling or canning.

Agronomy

Scorzonera is normally sown in spring and harvested in autumn and winter, or sown in autumn and harvested in early summer. In very friable soils roots can grow up to 60 cm long. They reach their potential length about nine weeks after sowing and subsequently increase in diameter.

Scorzonera is best grown on light, sandy soils to encourage long smooth roots. When grown on heavier soils roots are generally shorter, forked and often form

many thick rootlets. Before sowing, seed beds should be deeply worked and, if possible, ripped to encourage good root production.

The choice of cultivar and seed supply is limited at present. Cultivars that have proved successful in Crop & Food Research trials in Hawke's Bay were Lange Jan, M157 and M167. Local suppliers may have some seed lines in stock.

Management

Sowing can begin in spring as soon as soil temperatures are between 12 and 15°C. Earlier sowings can result in plants bolting to seed. The crop is direct-seeded as transplanting causes forked, short stubby roots. Precision seeding is difficult to achieve because seeds are about 10-15 mm long and are very irregular in shape. Seed will germinate readily within two to three weeks. Germination percentage is good when using fresh seed, but it drops as seed ages.

Spacings depend upon the machinery required for sowing, weeding and harvesting. A suggested spacing is 15 cm in-row and 1 m between rows; this provides around 66 000 plants/ha. Little is known about the optimum plant population so further work needs to be carried out before a firm recommendation can be made.

Pre-plant fertiliser applications of 50-75 kg/ha nitrogen, 20-40 kg/ha phosphorus and 200 kg/ha potassium is suggested from experience with other root crops. A stale seed bed technique of preparing the seed bed in advance of sowing and killing the germinating weeds with herbicide just before sowing is a recommended technique to help overcome early weed competition. Currently, there are no

chemicals registered for use on this crop in New Zealand although herbicides are widely used for weed control in Europe.

No diseases, apart from some early damping-off of seedlings in cold conditions after spring sowings, have been recorded in the trials.

Harvesting

Harvesting the deep-growing roots overseas is carried out using specialist machinery. Carrot or parsnip harvesters could be adapted to lift these roots, but an alternative is to use a deep plough and collect the roots by hand.

Yields

Root yields of 8 t/ha have been achieved, with individual roots of 100-200 g. The roots need to be cool stored just above freezing with a relative humidity of 95% otherwise they dry out. Under these conditions they can be stored for two to three months.

Future potential

Scorzonera is a crop not seen on the New Zealand vegetable markets although it is known to immigrants from Europe. Small quantities of scorzonera are exported from Belgium to Japan indicating that there may be export opportunities. This potential is likely to be as a processed crop because fresh roots may lead to soil contamination, and washing shortens the shelf-life.

Crop & Food Research has been conducting trials in Hawke's Bay on crop production systems for this new crop.

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