

Lamb's lettuce / Corn salad

Lamb's lettuce or corn salad (Usually *Valerianella locusta*) is part of the Valerian family (*Valerianaceae*). The very fact that we can't decide what to call it is an indication of the status of this minor leafy salad vegetable in the UK. It is however an important crop in the rest of Europe and we report on the experiences from Germany, overleaf. It is one of the hardiest of winter salad crops and has the advantage rotationally of not being a brassica, or indeed a member of any major vegetable group. On the down side it is a slow-growing crop, which poses some challenges for growing it organically, especially for weed control. Garden Organic has trialled 6 commercially available varieties with accessions from European gene banks and the results are reported below.

Leafy veg trials

Garden Organic is a partner in a four-year EC-funded project 'Leafy Veg', which aims to conserve and stimulate the use of genetic material of the leafy vegetables most important for Europe. The project is led by the Centre for Genetic Resources (CGN) at Wageningen in the Netherlands and has 12 partners from 10 countries, including universities, gene banks and NGOs active in genetic conservation. Having previously trialled the Heritage Seed Library's lettuce collection with commercial varieties (see OG7), in 2009 we turned our attention to the so-called minor leafy vegetables, rocket and lamb's lettuce. There are 45 accessions of lamb's lettuce maintained in the collections of project partners. These accessions (germplasm) can be heirloom varieties or landraces (farmer-developed cultivars of crop plants which are adapted to local environmental conditions), ex-commercial varieties, breeding lines or material collected from the wild. Project partners in Germany (Leibniz - Institute of Plant Genetics and Crop Plant Research - IPK) and Austria (Arche Noah, an NGO similar to Garden Organic's Heritage Seed Library) had characterised their *Valerianella* accessions and they selected promising material for us to trial in UK conditions.

Variety	Marketable yield (t/ha)	Outgrade (t/ha)	Total yield (t/ha)	Powdery mildew % leaf area 2/10/09	Powdery mildew % leaf area 30/10/09	Frost tolerance 1 = completely destroyed, 9 = no visible damage
D'Orlanda	1.2	1.0	2.1	2.7	15.0	4.7
Rodion	1.1	0.8	1.9	30.0	36.7	5.3
Medallion	1.0	0.6	1.6	19.3	38.3	4.3
Vit	0.9	1.4	2.3	3.0	31.7	5.7
Louviers	0.7	0.9	1.6	3.0	21.7	5.0
Verte De Cambrai	0.6	1.4	2.0	11.3	46.7	5.7

Ten accessions were chosen and six commercially available controls were included in the replicated trial at Ryton, near Coventry. The trial site has a sandy loam soil, a pH of 7, P index 1, K index 2+ and Mg Index 3. The seed was sown in modules rather than direct-drilled, due to shortage of available seed of the gene-bank material. They were sown on the 23rd July 2009 and transplanted at 15 x 30cm spacing in 4m beds on the 2nd September. The plots were harvested on the 3rd November 2009. The biggest issue with the trial, exacerbated by the dry and sunny conditions of last autumn, was powdery mildew (*Golovinomyces orontii*), causing up to 70% of leaves to be rejected at harvest in some cultivars. The level of mildew varied according to weather conditions at harvest, with less mildew visible after rain.



Photo: Phil Sumption / GardenOrganic

Planting the lamb's lettuce trial at Garden Organic Ryton

Variety	STRONG FLAVOUR 1=weak, 3=medium, 5=strong	OFF TASTE 1=no off taste, 3=mediocre, 5=strong off taste	SWEETNESS 1=not sweet, 3=slightly sweet, 5=very sweet	TEXTURE 1=too soft, 3=slightly crunchy, 5=very crunchy	APPEARANCE 1=very unappealing, 3=acceptable, 5=very appealing	PLEASANTNESS 1=not pleasant, 3=OK, 5=very pleasant
D'Orlanda	2.6	1.9	2.1	2.6	3.7	3.0
Rodion	3.3	2.4	1.9	3.1	3.4	2.6
Medallion	3.1	2.0	1.6	2.4	2.7	2.2
Vit	2.9	2.3	1.6	3.0	3.1	2.6
Louviers	3.1	2.4	1.8	3.2	3.2	2.8
Verte De Cambrai	3.0	2.4	1.4	2.7	3.4	2.7

Lamb's lettuce taste testing panel results - commercial varieties only

Commercial varieties are summarised below in descending order of marketable yield.

D'Orlanda (organic seed). Large strap like leaves. Highest marketable yield due to least powdery mildew of commercial varieties. Did well in the taste test and comments included 'Nice bright colour', best taste so far' and 'aromatic and distinctive flavour'. Not as frost tolerant as some.



Rodion (organic seed). Very round, dark green leaves. Average performance in taste test. Comments included 'insipid', slight lemon tang' and 'more fleshy leaves'



Vit (organic seed). Probably the most familiar variety to organic growers. Highest total yield of the commercial varieties (second overall) but 60% rejected due to powdery mildew. Good frost tolerance. Comments included 'floral taste' and 'aromatic'.



Louviere (organic seed). Low overall and marketable yield. Comments 'floral taste', slight curling of tips of leaves.'



Verte de Cambrai (non-organic seed). Lowest marketable yield of commercial varieties and second lowest in trial. More than 70% of leaves rejected for powdery mildew.



Showery conditions during harvesting (over 2 days) increased the risk of weather-induced variation in mildew. Therefore a visual assessment of percentage leaf area infected, scored over a shorter period of time, is also included in the table. A taste test was carried out by Garden Organic staff. After the cold period in January, when night temperatures dropped to as low as -12.5°C, the plots were assessed for frost damage.

There were some very promising results from the accessions on trial. Three accessions out-yielded the commercial varieties, mainly due to better resistance to powdery mildew. Although all varieties showed some frost damage, there was quite a bit of variation in hardiness, with many of the gene-bank accessions performing better than the commercial varieties. One accession (VALE 9), a *Valerianella pumila* rather than *locusta* or *eriocarpa*, had no powdery mildew at all and a very unusual spiky leaf-shape. It was also frost tolerant, but went to seed quicker than the others. Its nutty after-taste was appreciated, though some found its texture 'a bit furry'. Mauseohr had the lowest total yield, but the second highest marketable yield due to very low levels

of mildew. It also had the best frost tolerance in the trial. The project has commercial seed companies as observers, including Elsoms Seeds, Enza-Zaden, Nickerson-Zwaan and Syngenta, so some of these accessions may be taken forward either as varieties or as part of breeding programmes.



The three highest yielding accessions. From left; Vale 13, Vale 9, Mauseohr

Phil Sumption

<http://documents.plant.wur.nl/cgn/pgr/leafyveg/>

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