

Lingonberry: Dainty Looks, Sturdy Disposition, and Tasty Berries

Lee Reich

Long popular in other parts of the world, the lingonberry (*Vaccinium vitis-idaea*) is only now being recognized in the U.S. for its lovely appearance and good taste. Those qualities should come as no surprise since lingonberry is a member of the heath family (Ericaceae), a close relative of such beauties as rhododendron, pieris, and, of course, heath (*Erica*) and heather (*Calluna*) as well as to the delectable blueberry and our Thanksgiving cranberry.

Vaccinium vitis-idaea is separated into two botanical varieties with natural hybrids occurring in Scandinavia. The larger of the two, *V. vitis-idaea* var. *vitis-idaea*, is a spreading subshrub that grows to about two feet high and has inch-long, pointed leaves. The more diminutive lingonberry, *V. vitis-idaea* var. *minus*, stays under eight inches in height and has commensurately smaller leaves, one-third by one-sixth of an inch, oval, and rounded at the tips. Although fragile in appearance, leaves of both varieties are evergreen, with a green gloss similar to that of holly leaves. The larger lingonberry, hardy to USDA zone 4, is native to the lowlands of Europe and northern Asia. Variety *minus* grows wild in the mountains of Scandinavia and extends westward to Iceland, Greenland, and northern portions of North America; it is hardy to zone 2. Both botanical varieties can be grown as far south as USDA zone 7 provided summers are not too hot for too long; nonetheless, they are at their best in cooler areas. In fact, as an ornamental plant in cold climates lingonberry stands in well for low-growing boxwood—in parterres, for example, a use first suggested in



A Swiss Army pocketknife takes the measure of a flowering lingonberry plant.

1651 by André Mollet, the French gardener to Queen Christina of Sweden.

Lingonberry can be enjoyed in one way or another year-round. Let's start in spring, when small, urn-shaped blossoms dangle singly or in clusters near the ends of the thin, semiwoody stems. The urns hang upside down and are

white with a pink blush. They're not going to stop traffic from the street, so the plants should be grown where they can be looked at up close. Don't worry if you miss the spring floral show because lingonberries blossom twice each season. The second show, appearing in mid to late summer on young stems, is absent at far northern latitudes.

The pea-sized fruits that follow the flowers are a show in themselves. The bright red—or, rarely, white—berries hang on the plants for a long time, well into winter, making a perfect Christmas decoration *in situ*. Fruit yields are greater from the second flowering than from the first, and although cold and time will eventually darken and shrivel the berries, I find them tasty at whatever season I find them. Vitamin C concentration in the fruits, at 25 milligrams per 100 grams, is moderately high.

Attempts have been made to hybridize lingonberry with cranberry (*Vaccinium macrocarpon*) in order to combine the taste of the small lingonberry fruits with the large size of cranberries. Thus far, success has been achieved only when cranberry was the pollen parent, and the resulting plants showed characteristics intermediate between the two parents (except that none produced underground runners). But like mules, the hybrids have all been sterile and therefore bear no fruit.

THE FRUIT

Lingonberry may be a pomological upstart in the U.S., but this is not the case elsewhere in the world. Merely utter its name to Scandinavians and watch for a smile on their lips and a dreamy look in their eyes. Each year, thousands and thousands of tons of lingonberries are har-



A bed of lingonberries in fruit.

vested from the wild throughout Scandinavia, destined for sauce, juice, jam, wine, and baked goods. And of course, a fair number of these berries are just popped posthaste into appreciative mouths.

Lingonberry has long been a favorite not only of Scandinavians but of northern peoples throughout the world. It grows in climates so rigorous that any palatable fruit is appreciated, making the delicious lingonberries all the more cherished. So important was the fruit in thirteenth-century Iceland that laws limited berry-picking on other people's lands to what could be eaten on the spot. This fruit is the *Preiselbeere* of the Germans, the *kokemomo* of the Japanese, the *puolukka* of the Finns, the *wisakimin* of the Cree, the *airelle rouge* of the French, the *keepmingyuk* of the Inuit—and the *lingon* of the Swedes. In English, the plant has a number of monikers, including partridgeberry (Newfoundland), cowberry (Britain), foxberry (Nova Scotia), mountain cranberry, and rock cranberry.

I don't wish to seem unpatriotic, but the cosmopolitan lingonberry outshines our native cranberry in a number of respects. A lingonberry couples just enough sweetness with a rich, unique aroma so that the fruits—if picked dead ripe—are delicious eaten right off the plants or mixed with morning cereal. A cranberry, in contrast, is never palatable until doctored up with plenty of sugar and cooked. Lingonberry also beats the cranberry as an ornamental, its leaves retaining their lush, green color through winter—long after the cranberry's leaves turn a muddy purple. Along the front of my home, a rock retaining wall anchors a bed of lingonberries whose glossy greenness is enlivened in autumn by the red leaves of interplanted lowbush blueberries, and then, in winter, by the red stems.

CULTIVATION

Lingonberries grow naturally on raised bogs, rocky barrens, lichen woodlands of boreal taiga, dry heaths, tundra, mountaintops, and other cold, sometimes exposed habitats—that is to say, among the harshest conditions in the world, especially for an evergreen. One reason the plants tolerate such conditions is that they

hug the ground, where they are sheltered from wind and close to the earth's warmth, and often further protected by snow cover. All the soils that lingonberry inhabits are extremely rich in humus, thus providing good drainage and at the same time holding moisture. In addition to having good drainage and abundant organic matter, the soil must be very acidic, with a pH ideally between 4.5 and 5.5. These conditions—similar to those needed by blueberry, cranberry, mountain laurel, rhododendron, and other lingonberry relatives—must be met for lingonberry to thrive.

Adapting site conditions to suit lingonberry is not at all difficult on the scale of a garden, or even a small farm, as long as natural conditions are not too far off the mark. After ridding an area of weeds, against which lingonberries are poor competitors, a bucketful of acidic peat moss mixed into each planting hole provides the needed humus and helps acidify the soil. Peat moss, being poor in nutrients, is especially suitable for lingonberries; rich soils can burn their delicate roots and promote more vigorous weeds. The soil behind the rock wall where I planted my lingonberries and lowbush blueberries was nothing more than a great quantity of old potting soil that was almost fifty percent peat moss.

Where soil pH is not low enough—that is, below about 6.5—elemental sulfur should be applied before or when planting. Three-quarters of a pound of sulfur per hundred square feet in sandy soils, or two pounds per hundred square feet in loams, will change the pH by one unit. Where soils are naturally very alkaline (pH higher than 8), such as in many parts of the western U.S., native soil should be excavated from the planting site and replaced with a fifty-fifty mix of peat moss and sand. If the planting site has poor drainage, mounds of soil and peat can be built up to keep the lingonberries' shallow roots above water level.

Lingonberries can thrive in full sun but as a plant of northern climes, it will appreciate the coolness of some shade or—like the lingonberries on the east side of my house—a site shielded from hot afternoon sun. Too much shade, on the other hand, will produce lusty stem growth at the expense of yield.



*The shiny leaves of the evergreen lingonberries set off the bright fall red of *Vaccinium angustifolia*, and vice versa.*

If you grub beneath lingonberry plants, you will find a dense mat of fine roots growing just beneath the soil surface. Aboveground shoots originate from buds near the ends of rhizomes; they are responsible for the plant's spread. Plants that are raised from seed, in contrast to those propagated from rooted cuttings or runners, also have taproots.

Lingonberry looks and feels at home in a rock garden. It also makes an attractive, edible groundcover if plants are placed equidistant in all directions to eventually fill a bed with a uniform mat of stems. *Vaccinium vitis-idaea* var. *vitis-idaea*, being more vigorous, can fill an initial spacing of eighteen inches within three to five years; plants of *V. vitis-idaea* var. *minus* need to be set about ten inches apart. When farmed, lingonberries are planted in rows four to five feet apart, then—like strawberries—maintained as solid ribbons thirty inches wide.

Lingonberry plants are partially self-fertilizing, though cross-pollination results in increased yield and berry size. Pollination occurs best at about sixty degrees Fahrenheit; very little takes place at temperatures below fifty degrees, which are common during the early bloom period in spring. Fortunately, when the plants bloom for the second time in a season, conditions are more conducive to good pollination.

The plants benefit from annual applications of mulch, the ideal being a two-inch layer of finely divided, organic material that is not too rich in nutrients: sawdust, woodchips, chopped straw, or shredded leaves, for example. Such mulches sift down through the leaves and stems, keeping the ground cool and moist, preventing frost from heaving plants in winter, and decomposing to maintain high humus levels in the soil while at the same time providing

limited nutrients and buffering changes in soil acidity—all of which translates into larger berries and more of them. New roots, which form mostly in spring and autumn, will eventually form along covered portions of stems. Sand can also be used as an annual mulch, as it is for cranberries, but it has the drawbacks—especially in a backyard garden—of being heavy to move and providing no nutrition or buffering of changes in soil acidity.

Plants need care their first season if they are to thrive, perhaps even to survive. Most of that care can be summed up in one word: water. One-half gallon per week per square foot of planted area, the equivalent of an inch depth of water, keeps plants happy whether it comes from the sky, a sprinkler, or drip irrigation. Except in drought conditions high levels of soil humus from initial additions of peat moss and

maintenance applications of organic mulches should eliminate the need for further watering once plants are established.

Just because lingonberries thrive in lean soils does not mean that they never get hungry. Annual additions of organic materials help supply many nutrients, however, so nitrogen may be the only additional nutrient needed, if any. One indicator of nitrogen deficiency is yellowing of the oldest leaves. Soybean meal, available at feed stores, is an ideal source of nitrogen for lingonberry: it is inexpensive and doles out its nutriment slowly and in synch with growing conditions because these are the same conditions—heat and moisture—that stimulate soil microbes to work on the soybean meal. In acidic soils, the nitrogen from soybean meal ends up as ammonium ion, which is the form of nitrogen that suits lingonberry and other acid-



Heathers and lingonberries make good neighbors.

loving heath plants. As a general rule, a pound of soybean meal per hundred square feet per year, spread sometime between late fall and spring, will fulfill the plant's nitrogen needs. Avoid overfertilization because lingonberries' fine roots are especially susceptible to fertilizer burn and because it encourages the growth of weeds.

Soils that are not sufficiently acidic require periodic adjustments to keep acidity in lingonberry's preferred range. Every few years I spread elemental sulfur over the ground. Yellowing of the youngest leaves while their veins remain green is a sign of iron deficiency, the result of insufficient acidity among other things.

Lingonberry bears flowers and fruits on its youngest shoots, so pruning will stimulate the growth of young, fecund stems, as it does for lowbush blueberries. Plants are slow to establish themselves and need no pruning for the first five or six years. Then, while the plants are dormant, mow or cut a portion of the planting down to within an inch of the ground (leaving an unpruned portion so that you can still harvest that year). Current recommendations for the frequency of this drastic pruning range from every three or four years for the slower-growing *minus*—every two to three years for the more vigorous *idaea*—to as long as every fifteen years for either variety. Being evergreens, lingonberries will not bounce back from drastic pruning with as much enthusiasm as do their deciduous relatives the lowbush blueberries.

Except for needing annual mulching, occasional pruning, and perhaps additions of fertilizer and sulfur, lingonberry is a carefree plant. Problems with insects or diseases are rarely significant.

PROPAGATION

A number of techniques can be used to propagate lingonberries, each with its advantages and disadvantages.

Sowing seed can produce many plants, but the seeds do have their quirks. Fresh seeds are best, averaging about eighty-percent germination. To extract seeds in quantity, crush the fruits in water and let the mix ferment for a few days. Then wash away the pulp and skins. Sound seeds sink.

A one-to-one mixture of sand and peat moss, equal parts sand, peat, and soil, or one-hundred-percent milled sphagnum moss are all good sowing media. Barely cover the seeds because they need light to germinate. A period of about three months of cool, moist stratification seems to improve germination, although fresh seeds may sprout without it. Seeds sprout within a few weeks, after which the seedlings grow slowly and begin fruiting, on average, within three years. It is probably because of that three-year juvenile period—when all of a plant's energy is directed to growth and none to fruiting—that seed-propagated plants spread faster than plants grown by other methods.

Cuttings have several advantages over seeds: they are easy to root, bear fruit a year after rooting, and replicate genetically the plant they originate from. Cuttings of succulent new shoots or just ripened, mature shoots (the younger the better) are the most successful. Two-inch lengths treated with rooting hormone and kept in a humid atmosphere, preferably with bottom heat, root in about two months. Rhizomes tend to develop slowly on rooted stem cuttings.

Pieces of rhizomes two to four inches long can also be used to grow new plants. The best times to propagate from rhizomes are spring and fall, probably because these are peak periods for new root growth.

If you want to create just a few new plants, you can dig up older plants in spring or late summer and divide them just like any perennial. Take clumps having both roots and shoots for replanting. The same technique can be used to move plants or parts of plants from the wild, success being largely a function of the soil in which they are growing; damage to the thin, fragile roots can most easily be minimized when the plants are taken from soil rich in humus.

Micropropagation—cloning—is the creation of new plants from just a few cells of a mother plant. When used with lingonberry, it produces more plants in less time than any other technique, but it requires specialized equipment and sterile conditions.

Small plants, whether seedlings, cuttings, or micropropagated plants, do best if grown for a year or two in a nursery bed enriched



A berry-hungry author

with abundant humus. Spread mulch over the plants in the dead of winter and, perhaps, coverings of glass or plastic to help them keep their still-fragile roots in the ground as it freezes and thaws.

HARVEST AND USE

Three to six years is needed before a reasonable crop can be expected and even then yields vary considerably depending on growing con-

ditions. Under suboptimal conditions—in fertilized forest stands, for example—yields might be five to ten pounds per hundred square feet (one to two tons per acre). Skillful cultivation and the use of better cultivars can yield twenty-five pounds or more per hundred square feet (five tons per acre).

A berry comb like that used for lowbush blueberries speeds the task of picking fruit, but the resultant harvest needs to be cleaned of leaves and unripe fruits. A berry-hungry Scandinavian can rake about five pounds of fruit in an hour.

But there's no need to rush the picking or eating of lingonberries. They keep well on or off the bush, in part because they contain benzoic acid, a natural preservative. Refrigerated, they can be enjoyed for at least eight weeks, longer for the variety *idaea* than for *minus*. In nineteenth-century Sweden, lingonberries were kept from one year to the next as "water lingon," made by simply filling a jar with berries, then pouring water over them.

There seems to be no end to the uses for lingonberries. In Finland, for example, the berries are the traditional accompaniment to blood sausage or blood pancakes. They also find their way into meat stews, sauces, juice, and wine. They make excellent jam alone and an even better one

when combined with rosehips. The juice is delightfully refreshing mixed with that of other berries.

A refreshing, albeit potent, drink can be made from lingonberries and vodka. One recipe calls for soaking a quart of berries in a quart of vodka for two months, then pouring off the liquid into a bottle and adding two cups of sugar to the berries. Let the berries and sugar sit for about a week while the sugar draws out more liquid,

then add it to the vodka. Let that mix age for a month before tipling.

Lingonberries also find their way into the dispensary. Arbutin, the hydroquinone glycoside, in a tea made from the leaves is reputedly good for intestinal and bladder disorders, and the fruits are said to combat bladder and kidney infections, lower cholesterol levels, and treat rheumatic diseases. I have never used lingonberries for curative purposes, nor have I tasted them in all their culinary incarnations. But I do have great affection for the berries plucked right from the plants—at their peak of ripeness—into my eagerly waiting mouth.

CULTIVARS OF *VACCINIUM IDEAE* VAR. *VITIS-IDEAE*

'Ammerland', introduced from Germany, spreads at only a moderate rate and is productive if given suitable soil; stems are upright and bushy, reaching twelve inches in height; berries are bright red and small to medium sized, ripening midseason.

'Erntedank', also from Germany, introduced by Zillmer in 1975, has relatively pale leaves and poor growth. It produces very heavy yields of small- to medium-sized berries.

'Erntekrone', yet another introduction from Germany, also introduced by Zillmer—in 1978—is vigorous and stiffly upright with roundish, dark green leaves. It produces high yields of large, dark red fruits.

'Erntesegen', likewise from Germany and another 1978 introduction by Zillmer, won a Gold Medal in the 1981 German Garden Show. It is a very vigorous plant with large leaves, growing sixteen inches tall; productive, with profuse second bloom and late-ripening berries that are bright red and very large.

'Koralle', introduced from Holland in 1969 by H. van der Smit, represents a seedling population of thirty-five plants that produces some variation depending on the clone a plant was propagated from. It is Europe's most popular lingonberry and winner of a prestigious award of merit in 1976. In growth and yield it is very similar to 'Ammerland', with slightly smaller berries.

'Masovia', a 1985 selection from Poland, is vigorous with heavy yields.

'Red Pearl', a 1981 selection from Holland, is not the most productive cultivar, but it spreads rapidly and gives consistent yields. Stems are upright, reaching sixteen inches; the dark red fruits are medium sized and have excellent flavor.

'Sanna', a 1988 Swedish introduction, spreads moderately fast, with erect stems that grow eight to twelve inches high. Its productivity is excellent, perhaps the highest of any variety to date. It bears attractive crops of bright red berries in both the summer and the fall.

'Scarlet', a Norwegian selection, grows twelve to eighteen inches high.

CULTIVARS OF *VACCINIUM VITIS-IDEAE* VAR. *MINUS*

'Ida', a Swedish selection introduced in 1977, stands out for its beautiful leaves and abundant and repeated bloom. It is a vigorous, compact plant of about eight inches in height with a precocious first bloom and a profuse second bloom; its large fruits ripen early.

'Regal' was selected in Wisconsin in 1990 from Finnish seeds. Plants spread moderately fast with stems growing eight inches high; it is precocious and produces a low yield of small red fruits.

'Splendor' was also selected in Wisconsin in 1990 from Finnish seeds and is also moderately fast spreading. The stems grow six to eight inches high; it is precocious, with a low yield of medium-sized carmine berries.

'Sussi', introduced from Sweden in 1985, is a low-growing variety with stems of only four to eight inches high. It spreads rapidly; production of the dark red, medium- to large-sized berries is moderate.

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