

Cultivation and uses of Spanish black round radishes

By Isobel of Carnewyth, mka Heather Adams

Overview

Spanish black round radishes, *Raphanus sativus* L. var. *niger*, are an annual winter radish that can be grown in a wide range of conditions and be stored for over winter usage. Also known as Spanish radish, Gros Noir d'Hiver, Noir Gros de Paris, and the Black Mooli, this heirloom variety is documented back to 1548 in Europe, and is still used for both medicinal and culinary purposes today.



Background and Uses

Brassicaceae is a family of plants which includes radishes, mustards, cabbages, and cruciferous vegetables such as broccoli and cauliflower.

Domesticated radishes all belong to the species *Raphanus sativus*, which has varieties found throughout Europe and Asia. The round black radish, *Raphanus sativus* L. var. *Niger* is referenced to 1548's "Turner's name of herbes" by (Aiton, 1812, p. 129), which documents plants cultivated in the English Royal Garden at Kew. Black radishes are considered to have first been domesticated in Egypt with tomb paintings of black radishes dating to 2800 BCE (Rupp, 2011). However, early varieties were much larger in size compared to the Spanish black round and reached 40 to 100 pounds.

Medicinal uses:

The wide variety of radishes available in Medieval times were used for a wide variety of ailments, including some dubious cures for poisons, freckles, baldness, deafness, and the ability to see witches on Walpurgis Night (Rupp, 2011). The more reasonable uses focused on application to colds, coughs, phlegm, and digestive ailments.

Hildegard von Bingen's *Physica* has an entry on radishes (Appendix 1), although she may have been referring to the northern white radish, which has a very similar description of taste to the Spanish black round radish. Much of her entry refers to methods of moderating the strong flavor and making it safe for sick people to consume. For an excess of phlegm, Hildegard's preparations call for a dried and pulverized radish that can be added to a cooked mixture of honey and wine. Alternatively, the radish powder can be combined with salt and fennel seed to be eaten with bread.

"When it is eaten it cleanses the brain and diminishes noxious humors in the intestines.... It is thought that eating it expels a person's evil humors and stench."

--- translation from the Latin (Throop, 1998, p. 48)

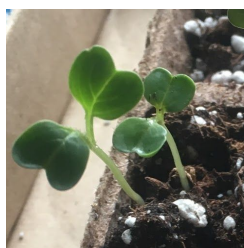
Hildegard's use of radishes for excessive phlegm persists in a contemporary remedy of radish soup for colds (Healthy Hildegard, n.d.). Antibacterial properties of raphanin, found in radish seed, have been documented in modern scientific literature since 1947 (Ivanovics and Hovarth, 1947). Current traditional usage of black round radish in Mexico for the treatment of gallstones has also attracted the interest of modern researchers. Several scientific studies have been conducted on the effects of the black round radish juice or pigments on gallstones (Castro-Torres, 2012 and 2014), intestinal inflammation (Sipos et al., 2002), and even in promoting detoxification enzymes (Hanlon et al., 2007; N'jai et al., 2012).

Culinary uses:

While medicinal may have been the primary medieval usage of radishes (Dumbarton Oaks, 1986), there are a wide range of medieval culinary recipes for radishes, ranging from raw to pickled. The larger white and black radishes were apparently preferred in the medieval Polish court and often cooked in the same manner as other root vegetables (Dembinska, 1999).

An early 16th century radish salad is listed as evidence against Juana Nuñez, who was accused of "Judaizing" during the Spanish Inquisition in 1512. Lucia Fernández's testimony against her describes a simple radish and watercress salad served to guests on Saturdays, made of "lettuce and radishes and cheese and cress" interpreted to be similar to contemporaneous salads (Gitlitz and Davidson, 2000; modernized version in Appendix 3). On the other end of intensity of preparation, compost (or compote) was a common recipe of "pickled salad" and a 14th century English version calls for radishes, carrots, turnips, and cabbage to be boiled, salted, vinegared, and added to a wine and honey mixture with herbs (Matterer, 2000a; Appendix 4).

Modern culinary recipes for the black round radish are similarly broad and range from the inclusion of thinly sliced radish to salads or slaws, roasted, sauteed with butter, to a rather fancy version by French Chef Alexandre Gauthier that includes "raw scallops, beaten egg whites and ribbons of black radish, drizzled with a little grilled peanut oil" (Kresh, 2015; Grant, 2018; Wightman, n.d.). Even Thomas Jefferson specified that his radishes were to be planted every two weeks to ensure there would be an ample supply for salads (Rupp, 2011).



Methods of Cultivation

Radishes appear in many lists of medieval garden inventories, listed with herbs or with kitchen and physic gardens, but there appear to be few specifics for their cultivation in medieval times (Heise, 2001-2004; Matterer, 2000b). However, Master Ion Gardener does include them in his list of "Other Manner Herbs" in his 15th century treatise and epic poem of gardening (De Valles, 2017; Amherst, 1894; Appendix 2). In it, he specifies that they should be sown in April and to "set and sow them everywhere."

Radishes are fairly easy to grow, preferring a close to neutral or slightly acidic pH soil, well drained and kept slightly moist. Spanish black round radishes grow rather large, with 3-4"

across being ideal, so they need space to grow. They need at least 6 hours of sun and will take 25-55 days to reach maturity (Grant, 2018). Radishes can be companion planted with several other vegetables including peas, nasturtium, lettuce, cucumber, beets, spinach, carrots, squash, melons, tomatoes, or beans, but not potatoes or hyssop (Ladwig-Cooper, 2011). They can also function as pest deterrents or sacrificial plants (Gardenswag, n.d.).

My Process and Results

Cultivation: My seeds were mail ordered from Baker Creek Heirloom Seeds. I first attempted indoor germination in the early spring, and successful germination required no special treatment. The seedlings grew quickly; however, our raised beds were still being constructed and were not ready to receive transplants. I directly sowed additional seeds in late May into organic compost top soil in our new raised beds. No amendments were added other than occasional local well water known to be high in calcium when rainwater and stored rainwater were insufficient. Periodic thinning was performed to allow the large radishes room to grow. Radishes with insufficient space bolted and produced tall vegetation with sparse leaves, plentiful flowers, and copious seed pods. Approximately two months after planting, I harvested a few of the smaller radishes for taste testing, leaving larger radishes to mature further. Several of my harvested radishes had not yet turned fully black, leaving me to believe that these are very closely related to the German white/ Munchener Bier Radish which has a very similar taste description. Subsequent weeks' harvests resulted in radishes exceeding 5" diameter.



Consumption: Freshly harvested, thinly sliced raw black round radishes have a far spicier pepper flavor compared to the familiar little French red radishes, with or without the black skin attached. My vegetable-loving dog concurred with my spicy assessment by spitting her tiny

piece out a couple of times before eating it and then refusing additional pieces. Magnus Dunbar compared the strength of flavor to horseradish and suggested that it would be good to add to a cream sauce for steak. Contemporary recipes for black radishes indicate that cooking would mellow the flavor closer to that of turnips. We thinly sliced the rest of the harvested radishes and sauteed them in butter. The flavor was indeed comparable to turnips and proved more palatable to all three tasters. It should be noted that sauteeing the radishes in olive oil preserves more of the spicy flavor, which may or may not be preferred.

Discussion and Next steps

The nutritional content of radishes includes multiple water soluble vitamins (B1, B2, B3, B5, B6, B9, and C) and minerals (calcium, iron, magnesium, manganese zinc, potassium, and phosphorus) in addition to unique compounds with potential health benefits supported by current scientific research (Banihani, 2017). It appears that the medieval medicinal usage has merit for some ailments; however, the extreme spiciness will limit raw usage. I would like to try a version of the 14th century compost recipe referenced above, using heirloom varieties of carrots and cabbage. At a minimum, I plan to keep some form of radish in my pottage gardens due to their pest control properties and the potential for over winter storage which makes this a good crop in times of uncertainty.



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Appendix 1

Excerpt from Hildegard's Physica on radishes (Throop, 1998)

LXXXIX. Radish

Radish (*retich*) is more hot than cold. After it is dug up, it should be placed underground in a damp place for two or three days. This tempers its energy, so that it is much better for eating. When it is eaten it cleanses the brain and diminishes noxious humors in the intestines. If a strong and fat man eats radish, it cures him and cleanses him internally, but it will harm a sick, lean body. If a sick person wishes to eat it, he should first dry it over a hot tile and reduce it to a powder. He should add salt and fennel seed, and eat it thus with bread. It purges the foulness inside him and strengthens him. One who has much phlegm should pulverize radish in the same way. Then he should cook honey and wine and put the powder into it. When it has cooled a bit, he should drink this, with or without food. The powder purges the phlegm and the honey keeps him from becoming lean. It is thought that eating it expels a person's evil humors and stench. One who eats radish should eat galingale afterward. This checks the stench of his breath and does not harm him.

Appendix 2

Excerpt of Master Ion Gardener's treatise (translated from the Middle English by De Valles, 2017 after Amherst, 1894)

OF OTHER MANNER HERBS

Of other herbs I shall tell
Therefore I must a hour dwell
In what month is harvest them set & sow
Soon hereafter thou shall know
In the month of April
Set & sow them everywhere
Herbs to make both sauce & sew
Thou shall have them here and there
Of all the herbs of yrlonde
Here thou shall know many one
Pellitory, Dittander, Rue & Sage
Clary, Thyme, Hyssop and Borage
Mint, Savory, Town cress & Spinach
Lettuce, Calamint, Avance & Borage
Fennel, Southernwood, Wormwood & Ribwort
St. John's Wort, Herb Robert, Herb Walter & Walwort
Hartystonge, Polipodium, Yarrow & Comfery
Gromwell, Woodruff, Hindheal & Betony
Gladiolus, Valerian, Scabious & Spearwort
Vervain, Woodsour, Waterily & Liverwort
Mouse Ear, Agrimony, Honeysuckle & Bugle
Great Centaury, Horsehele, Adderstongue & Bigold
Henbane, Chamomile, Teazel & Stichewort
Plantain, Groundsel, Alexander & Bruisewort
Merege, Lavender, Radish, Sanicle & Seniue
Periwinkle, Violet, Cowslip and Lily
Carsyndyllys, Strawberries and Motherwort
Oxtonge, Tutsan, Tansy & Fieldwort
Orpies, Catnip, Horehound & Flos Campi
Daffadill, Redenay, Primrose & Oculus Christi
Rose red, Rose white, Foxglove & Pimpernel
Holyhock, Coriander, Peony & thy wold
All these herbs by Saint Michael
Would be set in the month of April
Furthermore will I not go
But here of herbs will I stop.

Appendix 3

Modernized version of Juana Núñez's radish and watercress salad (Gitlitz and Davidson, 2000).

Salad:

1 - 2 oz watercress

½ head iceberg lettuce

2 c torn up other greens, such as a combination of radicchio, red lettuce, romaine, endive or fennel

1 tbsp chopped fresh mint

3 - 4 radishes, sliced

1 - 2 oz hard cheese such as

1 - 2 tsp coarsely ground salt

Dressing:

1-2 tsp balsamic, red wine or cider vinegar

3 tbsp olive oil

Appendix 4

Compost recipe reprinted in Gode Cookery (Matterer, J. L., 2000):

103. Compost. Take rote of persel, of pasternak, of rafens, scrape hem and waische hem clene. Take rapes & caboches, ypared and icorue. Take an erthen panne with clene water & set it on the fire; cast alle þise þerinne. Whan þey both boiled cast þerto peeres, & parboile hem wel. Take alle þise thynges vp & lat it kele on a faire cloth. Do þerto salt; whan it is colde, do hit in a vessel; take vyneger & powdour & safroun & do þerto, & lat alle þise thynges lye þerin al nytt, oper al day. Take wyne greke & hony, clarified togider; take lumbarde mustard & raisons coraunce, al hoole, & grynde powdour of canel, powdour douce & aneys hole, & fenell seed. Take alle þise thynges & cast togyder in a pot of erthe, & take þerof whan þou wilt & serue forth.

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