

Gardener's Notebook

Horticultural News and Research

THE HEALTH BENEFITS OF WATERCRESS

WATERCRESS (*Rorippa nasturtium-aquaticum*, formerly *Nasturtium officinale*) is the latest member of the crucifer family to be investigated for its health benefits. A highly nutritious vegetable and salad green that has been cultivated since Roman times, watercress is an excellent source of beta carotene, vitamins C, E, and A, iron, and iodine.

Throughout history, watercress has also enjoyed the reputation of a medicinal herb. It was listed as an aphrodisiac in Dioscorides' *Materia Medica* of 77 A.D. Throughout the Middle Ages it was used to treat a range of diseases from digestive, kidney, and liver ailments to eczema,



Watercress is the latest vegetable to be touted for its many health benefits.

boils, and warts. It appeared in the 16th-century herbalist Gerard's writings as a blood cleanser and a remedy for scurvy.

A high concentration of a compound called PEITC, a chemical known to inhibit various cancers, is the source of watercress's peppery taste and the origin of its more familiar botanical name, *Nasturtium*, from the Latin *nasus tortus* for "contorted nose." In addition, watercress, like broccoli, contains potent antioxidants.

A perennial herb with a creeping habit, watercress is grown as a cultivated crop more widely in its native Europe

than it is in the United States. Large-scale cultivation began in Germany in the 1750s, followed in the early 1800s by France and England.

In nature and under conventional cultivation, watercress is a cool-season crop, thriving in temperatures between 59 and 77 degrees Fahrenheit. Cultivation in running water from which the plants derive both nitrogen and mineral nutrients yields the highest quality watercress, but it can also be grown in very moist, cool soil or in containers with daily watering. Watercress remains fresh for up to four weeks if stored in plastic bags in the refrigerator.

PLANT IMPORT CRACKDOWN CONCERNS NURSERY INDUSTRY

ON JANUARY 22, the U.S. Animal and Plant Health Inspection Service (APHIS) began enforcing a longstanding regulation that all imported plant products be accompanied by a phytosanitary certificate verifying they are free of pests and diseases. The new enforcement of a regulation that has been in place for more than 20 years is causing concern among nursery owners, plant societies, botanical gardens, and private individuals who import plants and seeds. They say implementing the regulation will raise costs, possibly forcing small companies out of business and certainly raising prices for gardeners.

"Our responsibility is to try to keep foreign pests out, and we're seeing an increase in new pest outbreaks," says James Petit de Mange, plant inspection station coordinator for APHIS. "Ten years ago there were 19 new pest outbreaks each year. In 2001, there were more than 80." According to Petit de Mange, the decision to begin enforcing the regulation was influenced by an independent study that revealed most plant imports were coming in without phytosanitary certificates. "The idea is to try to push the risk offshore," says Petit de Mange, "to require foreign agencies to certify plants in order to minimize the risk."

But some in the U.S. plant industry believe other factors are at work. "I see the importance in regards to bringing in pathogens—they might be caught in the country of origin," says Dan Hinkley, co-founder of Heronswood Nursery in Kingston, Washington, "but my guess is the true intention is to slow down the process of globalization; people working with the invasive plant issue may be working with that."

Hinkley and other nursery owners point out that imported plants are already subject to inspection upon arrival in the United States. "They're being inspected, so there is no need to inspect further," says Tony Avent, owner of Plant Delights Nursery in Chapel Hill, North Carolina. "It will effectively kill seed trade from overseas and cuts off legal plant importation," adds Avent, noting that small companies in particular will have trouble absorbing the extra cost of phytosanitary certificates.

"It's expensive," agrees Petit de Mange. "It will cost about \$23 for a U.S. phytosanitary certificate." He says APHIS is sympathetic to the concerns of small businesses and seed exchanges. "I'm hoping they can coordinate somehow; maybe by consolidating shipments."

There is also concern that some countries don't have phytosanitary regulations in place and that a prohibition-type situation could develop if irresponsible individuals try to sidestep the new enforcement and related costs. "What I fear is that it's just going to increase the traffic of smuggled plants," says Hinkley. "In truth, this may *increase* the risk of bringing in pathogens."

"It's going to take people a little more planning to get phytosanitary certification," says Petit de Mange, "so we are asking them to apply and make advance inspection plans." He notes that plant smuggling is already a concern for APHIS, which has increased the number of its staff to address the issue. "In 2000, Congress passed the Plant Protection

Act, which increased our ability to fine people and raise the fines," he observes.

One thing is certain, says Avent. "Two issues—irradiation of mail and phytosanitation certificates—will change the face of American gardening."

NATURAL INSECT REPELLENT

CATNIP (*Nepeta cataria*) may be irresistible to cats, but apparently it has the opposite effect on insects. Researchers at Iowa State University in Ames have found that *N. cataria* yields an essential oil that has potential as an insect repellent. A member of the mint family from North Africa and the Mediterranean, this species of catnip is one of the parents of the ornamental catmint (*Nepeta xfaassenii*), commonly grown in gardens.

"We've been working on essential oils as alternative pesticides for about 15 years," says Joel Coats, professor of entomology and toxicology. "We've been trying to find those that would work on certain pests and how they work on the insects, something that is poorly understood at present."

What led Coats to catnip was the plant's long reputation as an insect repellent in folklore. "Nobody ever followed up to quantify: 'Does it or doesn't it?'" he says. Apparently it does: Trials with oil of catnip, distilled from the plants, show it surpasses the synthetic chemical DEET (dimethyl-toluamide) in repelling mosquitoes. To be equally effective, the concentration of DEET has to be 10 times the concentration of the catnip oil.



N. cataria, which is currently being evaluated for its insect-repelling properties, is one of the parents of the ornamental catnip (*N. xfaassenii*), shown here in a garden.

The essential oil of catnip also worked well in tests against American and German cockroaches and on houseflies. Nepetalactone, a compound in the essential oil, may interrupt insect enzyme products and may also affect insect reproductive activities. "Different cultivars," says Coats, "show a lot of variance in oil production."

Testing the oil's efficacy and safety on human skin is the next step before a product containing nepetalactone can be developed and marketed.

PULMONARIA STUDY

THE CHICAGO Botanic Garden has just released the results of a six-year study of 51 taxa of lungwort (*Pulmonaria* spp.). The goal of the study was to determine which species and cultivars of the shade-loving herbaceous perennial grow best in the Midwest's challenging climate. Plants were evaluated for ornamental qualities, disease and pest resistance, and cultural adaptability.

It is not surprising that this old-fashioned plant is enjoying renewed popularity.



2002 American Horticultural Society TRAVEL STUDY PROGRAM

Gardens of Jackson Hole and the Snake River Valley

July 16-21, 2002



Be the first to visit private exclusive gardens of Jackson Hole, Wyoming. This special program was conceived by one of our valued members, Mrs. Carole Hofley. The breathtaking gardens are legendary in this region. One of the days will be spent floating down the enchanting Snake River on a raft. Accommodations for this program will be provided at Spring Creek Ranch, a marvelous rustic setting just outside of Jackson, Wyoming.

The hosts for this tour will be AHS board member Kurt Bluemel and his wife, Hannah, of Baldwin, Maryland. Kurt is the owner of Kurt Bluemel, Inc., and past president of the Perennial Plant Association. Their charming grace, life experiences, and knowledge of horticulture will make this an extremely pleasurable trip you won't want to miss.

For complete details of the exciting 2002 schedule, visit the AHS Web site at www.ahs.org or call the Leonard Haertter Travel Company at (800) 942-6666.

No member dues are used to support the Travel Study Program.

ty. Nearly half of the selections tested—21 of 51—received the highest score, “good.” New cultivars abound, with variations of the characteristic silver spotting, splotching, and speckles on dark green leaves.

Although prized for their handsome foliage and clumping, slow-spreading habit, lungworts also bear small, pinkish blue



Pulmonaria saccharata produces attractive flowers that complement its foliage.

flowers in early spring. While most are not heavily floriferous, three were rated “high” for flower coverage. These are *P.* ‘Roy Davidson,’ *P. mollis*, and *P. saccharata*.

Excellent ground covers, spreading about twice as wide as their six to 18 inch heights, lungworts have silvery green leaves that brighten sites in light to medium shade. They thrive in consistently moist, well-drained, and humus-rich soil and may go dormant in dry summer conditions.

To receive a copy of *Plant Evaluation Notes*, issue 17, “An Appraisal of Pulmonaria for the Garden,” send a check for \$3, payable to Chicago Botanic Garden, c/o Richard Hawke, 1000 Lake Cook Road, Glencoe, IL 60022.

WINNING WOODIES

ELEVEN WOODY ornamental plant selections have been named as top performers in regional trials that are a collaborative effort between the USDA’s Agricultural Research Service (ARS) and more than 30 state experiment stations in the north-central United States, New England, and Alaska. For the past 48 years, collaborators have collected and submitted data on ornamental trees,

shrubs, and vines to the North Central Regional Plant Introduction Station in Ames, Iowa. The Ames trials track the performance of each plant over a 10-year period. The top performers from the most recent cycle of trials are:

- Nugget ninebark
(*Physocarpus opulifolius* ‘Nugget’)
- Sakakawea buffaloberry (*Shepherdia argentea* ‘Sakakawea’)
- Kentucky wisteria (*Wisteria frutescens* var. *macrostachya*)
- Cardinal and Ruby red osier dogwoods
(*Cornus sericea* ‘Cardinal’ and ‘Ruby’)
- Indigo silky dogwood
(*Cornus amomum* ‘Indigo’)
- Konza fragrant sumac
(*Rhus aromatica* ‘Konza’)
- Tara barberry (*Berberis* ‘Tara’,
trademarked Emerald Carousel)
- White Knight weigela (*Weigela florida*
‘White Knight’)
- Western larch (*Larix occidentalis*)
- Little King river birch
(*Betula nigra* ‘Little King’,
trademarked Fox Valley)

RICHARD HAWKE, COURTESY OF THE CHICAGO BOTANIC GARDEN



2002 American Horticultural Society TRAVEL STUDY PROGRAM

Secret Gardens of Santa Fe and Taos

June 11–16, 2002



You don’t want to miss this chance to experience the breathtaking sights of America’s Southwest. Santa Fe and Taos are without question the jewels of this region. Come join us as we visit gardeners in the shadows of the Sangre de Cristo Mountains and desert plateaus who have created marvelous gardens that thrive in what is best described as arid conditions. Visit a true oasis, where an 18,000-gallon koi pond is home to a variety of waterlilies, irises, and reeds. Accommodations for this program are provided at the Inn of the Anasazi, well known for its exceptional Southwest architectural style in the heart of historic Santa Fe.

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