

# BAY

## An Herb Society of America Guide



**About the cover**

**Botanical Print:** The *Laurus nobilis* print is from *Medizinal Pflanzen*, which was published in 1887 in Gera, Germany. The nearly 300 finely detailed illustrations were expertly drawn by the artists L. Müller and C.F. Schmidt.

**Photo credits from left to right**

Theresa Mieseler, Pat Crocker, Susan Belsinger, Henry Oakeley

**Key to numbers on front cover**

- 1) Flower, showing arrangement of stamens and pistil
- 2) Male flower
- 3) Female flower
- 4) Inflorescence
- 5) Wall of fruit (pericarp)
- 6) Cross section of fruit
- 7) Flower cut vertically
- 8) Mature fruit
- 9) Stamen and basal gland showing dehiscence of male flower
- 10) Stamen with basal gland of male flower
- 11) Pistil and staminoid (note absence of terminal anthers but presence of basal glands) of female flower

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## THE HERB SOCIETY OF AMERICA

### *Mission*

The Herb Society of America is dedicated to promoting the knowledge, use and delight of herbs through educational programs, research, and sharing the experience of its members with the community.

### *Environmental Statement*

The Society is committed to protecting our global environment for the health and well-being of humankind and all growing things. We encourage gardeners to practice environmentally sound horticulture.

### *Purpose, Scope and Intended Audience*

This guide was designed to provide an overview of the cultivation, chemistry, botany, history, folklore and uses of *Laurus*. It was written to accommodate a variety of audiences, providing basic information appropriate for beginners to herbs and herb gardening as well as supplemental information for more experienced herb enthusiasts and herb business owners. It can be used in conjunction with HSA's Herb Study Group Guidelines or as a starting point for those interested in pursuing individual research or developing an herbal presentation/program.

### *Disclaimer*

Information is provided as an educational service. Mention of commercial products does not indicate an endorsement by The Herb Society of America. The Herb Society of America cannot advise, recommend, or prescribe herbs for medicinal use. Please consult a health care provider before pursuing any herbal treatments.



*Laurus nobilis*

Photo ©2009 Pat Crocker

A warm thank you to the many people who willingly and generously shared their knowledge and experience of bay for this guide.

## Introducing Bay – Herb of the Year

### **Theresa Mieseler**

Bay is an aromatic robust plant with glossy, dark green leaves that are smooth and leathery. When I first began my research on bay, I was amazed at the amount of information available regarding its history, medicinal values, culinary uses and varieties. Bay was held in high esteem as Rex Talbert notes, and the plant is still used in rituals of the Orthodox church. Dr. Arthur Tucker refers to it as Grecian Bay.

As you peruse this guide, I'm sure you will find some valuable growing tips as well as new ways to use bay. If you have not had success propagating bay from cuttings, be sure to try the technique described by Dorothy Bonitz, as she has had great success in this area. Its resistance to most pests and diseases makes bay a desirable plant to grow, producing a bountiful harvest each year. Bay is a very showy plant – give it a special space on your patio or in the garden and it will reward you time and again.

Rexford Talbert has been a member of The Herb Society of America since 1968 and is the



recipient of the Nancy Putnam Howard Award for Horticultural Excellence. He is the co-founder and former chairman of the South Texas Unit and has served on the HSA Board of Directors. Rex retired from the National Aeronautics and Space Administration and its predecessor the National Advisory Committee for Aeronautics after more than thirty years of service. He has written and lectured on herbs for over 40 years and has been published in *The Herb Companion*, *Kitchen Gardens*, *The Gilded Herb* and *The Herbarist*, among others.

## Origin of the Binomial Name Bay, *Laurus nobilis*

### Rexford Talbert

The origin of the binomial name of the plant identified as *Laurus nobilis* is partially obscure. The generic half of the binomial, *Laurus*, comes directly from the Latin name for the tree and likely is taken from a more ancient Celtic word *blaur* meaning green. A phonetic corruption is generally blamed for the loss of the letter *b* resulting in the word *laur* and its other forms *laurel*, *laurus* etc.

The specific epithet is *nobilis*, a Latin word whose meaning is multifold depending on whether one is speaking of a person or a thing. Likely the best definitional choice is the word *famous*. This choice would be based on the ancient utilization of the stems, leaves and fruit of this plant in making a crown or capulet to designate and identify a person famous for their accomplishments. The ancient Greek name for this plant was *dáphnee* (Δάφνη) after the nymph Daphne, who was turned into a laurel shrub by her river god father to help her escape Apollo's lustful attentions. According to the myth, Apollo, after this episode of unrequited love, wore twigs bearing the leaves and berries of this plant as an accoutrement.

Planted at Delphi, the quaking of its leaves announced the voice of the god Apollo. Priestesses foretold the future with the leaves between their teeth to guarantee the gods blessing of the prophecy. Water selected from mountain streams was filtered through the leaves and this wet bough in turn was used to sprinkle the audience to signify the godhead blessing. A bay bough is used in a similar fashion within the Orthodox Church service.

## Chemistry of Grecian Bay

### Dr. Arthur Tucker

The essential oil of Grecian bay leaves is characterized by 24 to 56 percent 1,8-cineole, 3 to 28 percent alpha-terpinyl acetate or formate, and a trace to 11 percent linalool, providing a eucalyptus-like but delicate spicy fragrance. At least eight alpha-methylene gamma-butyrolactones (costunolide, costuslactone, laurenobiolide, deacetyl-laurenbioloide, artemorin, verlotorin, santamarin, and reynosin) have been isolated from *L. nobilis* leaves and documented to be the chief causes of allergic contact dermatitis. Ten alkaloids, nine of them aporphines and nor-aporphines, with unknown physiological activity have also been isolated from *L. nobilis* leaves.

Dr. Arthur Tucker is a research professor at Delaware State University specializing in the



chemistry and identification of herbs. He is a member of the Rosemary Circle and the Northern New Jersey Unit of HSA. He has received HSA's Nancy Putnam Howard Award for Excellence in Horticulture, the Helen de Conway Little Medal of Honor and the Gertrude B. Foster Award for Excellence in Herbal Literature. Dr. Tucker is co-author of *The Big Book of Herbs* with Thomas DeBaggio.

**Family:** Lauraceae

**Growth form:** tree to 66 feet (20 m)

**Hardiness:** routinely hardy to Zone 8

**Light:** full sun

**Water:** moist but not wet; can withstand minor drought

**Soil:** well-drained garden loam, pH 4.5-8.2, average 6.2

**Propagation:** cuttings or seeds

**Culinary use:** soups, stews, meats

**Craft use:** wreaths

**Landscape use:** potted trees on patio, specimen trees

## Grecian Bay

### Dr. Arthur Tucker

Grecian bay

*Laurus nobilis*

lâ-rŭs nŏ-bĭ-lĭs

Grecian bay is an evergreen tree native to Asia Minor and cultivated extensively throughout the Mediterranean basin for both culinary and ornamental purposes. The herb is easily pruned into hedges or standards.

Grecian bay needs good, friable garden loam in full sun. Bay grows in warm, humid summers. Because Grecian bay is only marginally hardy to Zone 7, most North Americans find it necessary to grow the bay plants in pots and winter them over indoors on cool, sunny porches or in cool greenhouses at 40 to 50°C. Avoid temperatures below 38°C and waterlogged soils; replot plants to a larger container every two to three years as they become pot bound. Bays will continue sporadic growth during the winter if day length is extended with supplemental artificial lighting. As new leaves form in spring, older leaves normally turn yellow and drop.

Variations in Grecian bay have not been fully cataloged. An inventory of wild bay trees in Israel revealed twenty-one distinct varieties. An Israeli researcher found dwarfs with tiny leaves, huge bays with heavy concentrations of dark green leaves, and scents that ranged from an essential oil described as having a "good lemony" aroma to others with almost no odor at all. Below are some of the named cultivars recognized by M. P. Voloshin, author of the most recent comprehensive work on Grecian bay. Obviously much more exploration could be done to bring additional variation into cultivation into North America. While *L. nobilis* is a dioecious species, the sex of the following cultivars is unknown, although male trees are preferred near homes to avoid the fruits, which eventually turn rancid. The correct nomenclature of the cultivars is also confusing and in need of a current revision.



*Laurus nobilis* 'Angustifolia'

Photo ©2009 Dr. H.F. Oakeley  
Royal College of Physicians of London

**Cultivar name:** 'Angustifolia'

**Synonyms:** var. *angustifolia* Lodd., f. *angustifolia* Mouill., var. *angustifolia* (Nees) Markgr., var. *angustifolia* Batt.

**Common English name:** narrow-leaved bay

**Notes:** confused in nursery trade with 'Salicifolia'

**Cultivar name:** 'Aurea'

**Synonyms:** f. *pallidus* Brizi

**Common English name:** golden bay

**Leaves:** yellow-green when grown under relatively cool conditions, particularly influenced by night temperature, otherwise green

**Cultivar name:** 'Borziana'

**Synonyms:** var. *borziana* Bég.

**Common English name:** Borzi's bay

**Leaves:** thin, elongated

**Fruit:** spherical, large to ca. 1/2 inch

**Cultivar name:** 'Cylindrocarpa'

**Synonyms:** var. *cylindrocarpa* Bég.

**Common English name:** cylinder-fruited bay

**Leaves:** egg-shaped

**Fruit:** cylindrical

**Cultivar name:** 'Eriobotryfolia'

**Synonyms:** f. *eriobotryfolia* Kalaida

**Common English name:** loquat-leaved bay

**Cultivar name:** 'Flore Pleno'

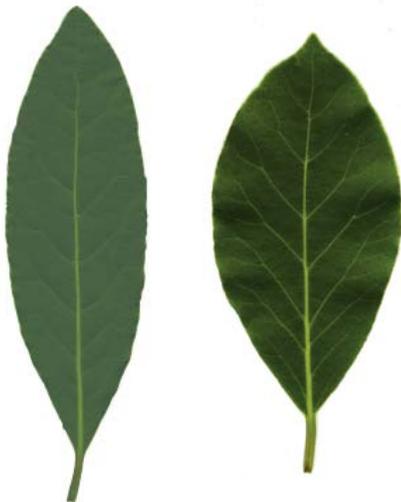
**Synonyms:** var. *flore pleno* Duhamel

**Common English name:** double-flowered bay

**Cultivar name:** 'Glauca'

**Synonyms:** f. *glauca* Kalaida

**Common English name:** glaucous-leaved bay



*L. n. 'Holy Land'*  
Photo ©2009 Rexford  
Talbert

*L. n. 'Latifolia'*  
Photo ©2009 Rexford  
Talbert

**Laurus in other languages —**

French: *laurier franc, laurier des poètes, laurier d'Apollon*

German: *Edler Lorbeerbaum*

Dutch: *laurierboom, bakelaar*

Italian: *lauro franco, lauro poetico, lauro regio, alloro*

Spanish: *laurél común, lauro, bahia*

Portuguese: *loureiro, louro*

Swedish: *lager*

Russian: *lavr*

Chinese: *yueh-kuei*

Japanese: *gekkeiju*

Arabic: *ghar*

**Cultivar name:** 'Grandiflora'

**Synonyms:** f. *grandiflora* Kalaida

**Common English name:** large-flowered bay

**Cultivar name:** 'Holy Land'

**Origin:** Israel

**Leaves:** slightly wavy on edges

**Cultivar name:** 'Latifolia'

**Synonyms:** var. *latifolia* Duhamel, var. *latifolia* (Nees) Markgr., f. *latifolia* Mill., 'Crestwood'

**Origin:** native to Spain, Italy, and Asia

**Common English name:** broad-leaved bay

**Leaves:** broad and smooth

**Growth:** less hardy than most other varieties

**Cultivar name:** 'Ligustrifolia'

**Common english name:** f. *ligustrifolia* Kalaida

**Common English name:** privet-leaved bay

**Cultivar name:** 'Macrocarpa'

**Synonyms:** f. *macrocarpa* Kalaida

**Common English name:** large-fruited bay

**Cultivar name:** 'Macroclada'

**Synonyms:** var. *macroclada* Giac. & Zanib.

**Common English name:** large bay

**Leaves:** rounded apex, tapering to base, stout

**Fruit:** globular, large, ca. 1/2 inch

**Growth:** growing to great height

**Cultivar name:** 'Mikrocarpa'

**Synonyms:** f. *mikrocarpa* Kalaida

**Common English name:** small-fruited bay

**Cultivar name:** 'Multiflora'

**Synonyms:** f. *multiflora* Kalaida

**Common English name:** many-flowered bay



*L. n.* 'Rotundifolia'  
Photo ©2009 Rexford Talbert

**Cultivar name:** 'Olivaeformis'

**Synonyms:** f. *olivaeformis* Kalaida

**Common English name:** olive-fruited bay

**Cultivar name:** 'Ovalifolia'

**Synonyms:** f. *ovalifolia* Kalaida, var. *cinnamomifolius* Brizi

**Common English name:** oval-leaved bay

**Cultivar name:** 'Pallida'

**Synonyms:** var. *pallida* Brizi

**Leaves:** yellow-green

**Fruit:** reddish

**Growth:** shrubby

**Cultivar name:** 'Parvifolia'

**Synonyms:** var. *parvifolia* D. J. Browne, f. *microphylla* Kalaida, 'Microphylla'

**Origin:** French Caribbean

**Common English name:** small-leaved bay

**Cultivar name:** 'Pedunculata'

**Synonyms:** f. *pedunculata* Kalaida

**Common English name:** pedunculate-flowered bay

**Cultivar name:** 'Rotundifolia'

**Origin:** This cultivar was mentioned by Theophrastus (ca. 370-285 B.C.E.) in his *Enquiry into Plants*. (3.17.3)

**Synonyms:** var. *rotundifolia* Emb. & Maire, f. *rotundifolia* Voloshin, 'Saratoga'

**Common English name:** round-leaved bay

**Leaves:** wide, mostly round

**Cultivar name:** 'Rubrinervis'

**Synonyms:** f. *rubrinervis* Kalaida

**Common English name:** red-veined bay

**Leaves:** red-veined



*L. n.* 'Salicifolia'

Photo ©2009 Rexford Talbert



*L. n.* 'Saso's Dwarf'

Photo ©2009 Rexford Talbert



*L. n.* 'Undulata'

Photo ©2009 Rexford Talbert

**Cultivar name:** 'Salicifolia'

**Synonyms:** var. *salicifolia* Sweet, 'Tenuifolia'

**Common English name:** willow-leaf bay

**Leaves:** narrowly lance-shaped, about 1 to 2.7 inches x  $\frac{2}{3}$ - $\frac{3}{4}$  inch (3-7 cm x 6-20 mm), not as thick as the normal variety and of a lighter green color

**Growth:** shrub 6 to 8 ft (1.8 to 2.4 m)

**Notes:** confused in nursery trade with 'Angustifolia'

**Cultivar name:** 'Saso's Dwarf'

**Origin:** Louis Saso, Saso Herb Gardens, Saratoga, CA

**Leaves:** thick, dark green

**Growth:** shrubby

**Cultivar name:** 'Sphaerocarpa'

**Common English name:** ball-fruited bay

**Leaves:** small, polished

**Fruit:** spherical

**Cultivar name:** 'Sunspot'

**Common English name:** Sunspot sweet bay

**Leaves:** gold-variegated foliage

**Cultivar name:** 'Undulata'

**Synonyms:** var. *undulata* Mill., f. *undulata* Mouill., var. *crispa* (Nees) Markgr. in Hegi

**Common English name:** wavy-leaved bay

**Leaves:** margin distinctly undulate

**Fruit:** egg-shaped

**Growth:** low shrub seldom higher than 4 to 6 feet (1.2 to 1.8 m)

**Cultivar name:** 'Variegata'

**Synonyms:** var. *variegata* Sweet

**Common English name:** gold-striped bay

In addition to these cultivars, the following cultivars (many originally published as botanical varieties or formae) have been listed in the literature, but relatively little is known about them: 'Baccalia,' 'Communis,' 'Cypria,' 'Delphica,'

'Elliptica,' 'Ellipticifolia,' 'Floribunda,' 'Iterophylla,' 'Lanceolata,' 'Longifolia,' 'Minor,' 'Mustacen,' 'Obscura,' 'Pompeiana,' 'Pyriformis,' 'Regia,' 'Rotundifolia,' 'Rubrinercis,' 'Subovata,' 'Sylvatica,' and 'Triumphalis.'



*Laurus nobilis*, Muralto, Switzerland

Photo ©Theresa Mieseler

### Botanical description

*L. nobilis* L., Sp. pl. 369. 1753.

Native country: Grecian bay is native to Asia Minor.

General habit: Grecian bay is an evergreen shrub or, more commonly, an evergreen tree, 2 to 20 m high, with erect branches. Shoots are black-red, smooth.

Leaves: Leaves are alternate, narrowly parallel-sided, lance-shaped, pinched at both ends, 5 to 10 x 2 to 7.5 cm, smooth, margins undulate, glossy dark green above.

Flowers: Flowers are dioecious, greenish-yellow in axillary clusters.

Fruits/Seeds: Fruit is glossy black and olive-like, 10 to 15 mm round.



*L. azorica*

Photo ©2009 Rexford Talbert

The genus *Laurus* includes only one other species, *L. azorica* (Seub.) J. Franco (*L. canariensis* Webb. & Berth, non-Willd.), the Canary Island bay/laurel.

**Dorothy Bonitz**

Dorothy is a Master Gardener who receives lecture invitations



throughout the country. She is a Life Member of The Herb Society of America and has served two terms on the board. In 1995 she was awarded the Certificate of Appreciation for her work in herb education. In 2008 Dorothy received the Joanna McQuail Reed Award for the Artistic Use of Herbs.

## Rooting Bay at Home

**Dorothy Bonitz**

Rooting bay plants at home is easy to do and the following method has been very successful. Assemble your materials, taking care that all the supplies are clean. A good time to take the cuttings is in the fall of the year.

**Materials needed:**

- 1 large-mouth gallon jar with lid
- Soilless medium for rooting
- Thin pencil
- Clippers or a sharp thin-blade pocketknife,
- Rooting hormone
- Small dish or paper towel
- Cuttings

The rooting medium should be one that can be kept uniformly moist and provides aeration. I have had success with ProMix BX. Root-inducing hormones are available in powder and liquid forms and are helpful with bay cuttings. It increases the speed of rooting and the number of roots on the cuttings. Take your cuttings early in the morning because the shoots are turgid. Your goal is to take the cuttings and insert them as quickly as possible after removal from the stock plant. If this stock plant is not in your garden or if some time will elapse before you can prepare and stick them, take along a portable picnic cooler with ice. Put the cuttings in a plastic bag and place in the cooler. Make a new cut before using a rooting hormone. Dampen the rooting medium and place in the gallon jar filling a little over a third full.

Select four healthy tip cuttings of half-hardened wood, 4 to 6" long, making the cut on the stem 1/4" below a leaf node (the junction of the leaf and stem). Cuttings can also be made from the sucker material at the base of older shrubs.

Put a small amount of rooting hormone in a saucer or on a paper towel. Remove the leaves at the lower part of the cuttings, dampen the cuttings and roll the cuttings in the powder shaking off the excess powder. If using a gel liquid, dip the cuttings and wait a minute before you stick in the rooting medium. Make four holes with the pencil in your medium, keeping the depth



### Rooting cuttings of bay

Photo ©2009 Dorothy Bonitz

about an inch and a half above the bottom of the jar. Insert the cuttings, leaving space between each one and gently firm the soilless mix. If you use the liquid hormone it is not necessary to make a hole before inserting. Place the lid on the jar and put it in a cool room in the house with indirect light. Check several times during the winter to see if the soil is moist and if there are any signs of fungal growth. Resist giving little tugs to see if roots are forming.

By spring or several months later you should have roots on your cuttings. Remove the lid and in a day or so carefully pot up the rooted cuttings, water well. After planting avoid wind and bright sun for seven to fourteen days. Stem cuttings will need to be fertilized with a dilute solution when new growth begins.

This method holds humidity in the rooting chamber and is both easy and fun. It is a return in many ways to our grandmothers' Mason jar technique for rooting plants.

Dr. Arthur Tucker writes that Grecian bay is easily rooted from cuttings of the suckers that are produced from the base of the plant and from the roots. Commercial propagation is normally via seeds, which results in an uneven population and considerable variation, and germination is often low. Researchers in Turkey found that removal of both the pericarp (fruit wall) and seed coat significantly increased germination, probably by removing inhibitors of seed germination.

Henry Flowers is a native Texan and graduated from Texas A&M University in 1991



with a Bachelor of Science degree in Horticulture and in 1993 with a Master of Agriculture degree in Floriculture. Upon graduation he joined the staff of the Antique Rose Emporium. He later managed their main retail facility and gardens in Independence, Texas. He is presently Director of Gardens and Grounds for the International Festival-Institute (Festival Hill) in Round Top.

## Notes on Growing Bay from HSA Members

### Bay Laurels at Festival Hill in Round Top, Texas

#### Henry Flowers

We have been growing bay laurels at Festival Hill since Madalene Hill arrived about 15 years ago and started planting the herb gardens. She brought with her many large containerized specimens that were placed into large raised planting beds and they are all still alive today.

Our collection of bay laurels includes the common form *Laurus nobilis*, the willow-leaved bay (*L. n.* 'Salicifolia'), the golden bay (*L. n.* 'Aurea') and the wavy leaf bay (*L. n.* 'Undulata').

In general bay is easy to grow in our zone 8b gardens. They rarely receive much fertilizer and are well mulched every year or two. For ease of maintenance we keep our plants about 7-8 feet in height. Because they are in beds with other plants, most are pruned up into standard form with 5-7 main trunks. Since they are truly bushes, we have to fight their desire to send up suckers from the roots and trunks by trimming 2-3 times a year. At that time we also trim the tops to keep them shaped. In their desire to grow tall they often put up 2-4 foot shoots that have to be trimmed off – but which offer us and our garden volunteers a good supply of leaves for the kitchen.

As mentioned earlier, the laurel is easy to grow here, but it does have one major insect pest which can be problematic – soft scale. We have had a problem with this scale in an off-and-on basis for many years. It is very difficult to control with approved organic chemicals, and strong chemicals of course render the plant useless for culinary use. The best treatment we have come up with is to use dormant and horticultural oils on a routine basis to keep the scale population low by essentially smothering the insects. This works well if you are diligent, but I often don't spray routinely as I should. In early spring we trim and shape the scale-infected bay plants and strip off all the leaves. The plants are sprayed with a horticultural oil to smother any remaining insects on the stems. After this the plants put on new growth and are beautiful again. This is much easier to do on a potted plant and perhaps impossible on a very large plant that is not often trimmed, but it is an effective method that avoids using strong chemicals. Madalene cautioned us to gently pull down on the leaves when removing so that the bud above the leaf would not be damaged. Another less problematic, but still annoying pest, is the grasshopper.

Grasshoppers love to eat plants with tough leaves and bay laurel is one of them. They can really disfigure the leaves and make the plant look ragged. We keep the grasshopper population down by annual treatments with Semaspore (Nolobait), an organic spore that interrupts the life cycle of the insect and thus keeps the population down.

In a local nursery where I formerly worked, there are some bay laurels that I planted many years ago and they have grown to great size. One of them was a standard specimen that has now grown 15-18 feet tall. By removing all suckers through routine pruning, it now has a good-sized single trunk.

#### **Dr. Arthur Tucker**

In protected spots as far north as Washington, D.C., bays can be successfully overwintered outdoors; it may take some experimentation to find the perfect spot. In harsh winters, the plant will die back like an herbaceous perennial and send up shoots from the roots in May. Nancy Howard was a member of the HSA's Philadelphia Unit, and even found such a place for a bay tree in her Philadelphia garden. Much more selection could be done to find hardy Grecian bay trees, such as has been done with 'Arp' rosemary.

#### **Theresa Mieseler**

In Minnesota, bay plants are grown in containers and brought indoors for the winter. I have found that bay will survive outdoors down to 20°F and one mild winter I still had bay until Christmas – but that was very unusual. We keep bay plants in total darkness in the root cellar where the temperature is between 33°F - 36°F. Plants are stored in the cellar from mid-November until early March. When they are brought out they are kept shaded for several days to keep the sun from scorching the leaves.

At home, keep the bay plants in a sunny window, south or west facing preferably, during the winter. The soil should be kept evenly moist but not overly wet. In May they can be placed outside again.

Louise Hyde has been an herb grower for the past thirty years. She and her husband, Cyrus, created Well-



Sweep Herb Farm; the original 4.25 acres has now grown to 120 acres. They collect and create new varieties of herbs and have extensive gardens that display the many varieties of herbs at the farm. Lecturing and teaching craft classes are an important part of every season. Three grown children and five grandchildren along with a barnyard full of animals are all part of her life.



Bay Standard in France

Photo ©2009 Pat Crocker

## Creating a Bay Standard

### Louise Hyde

Creating a bay tree topiary or standard is relatively easy, but it can take months or years to have one of good size. Bay trees are known to be slow growers initially, but before you know it they are soon bursting with new growth. Start with a small plant that has a straight stem. As the bay tree grows, increase the size of the pot to accommodate the roots. Fertilize every 4 to 6 weeks to encourage new growth. We grow our plants in partial to full sun and keep them damp but not wet.

If a bay with a straight stem is not available, take any size plant and pot it into a larger one at least two times larger than the original. More often than not, as this small plant grows it will send up a sucker shoot alongside the main plant. When this happens and the sucker seems well established, cut away the original plant so all of the energy goes to the sucker shoot. If any side shoots appear, trim them off to encourage the central stem to grow. Root growth causes stem growth, so give the plants room to grow using an appropriately sized pot.

As the stem of the tree starts to gain some height, decide what size would be best for your needs. When that height is reached cut the center or terminal stem. This will prevent any further growth in height and will cause the head of the plant to begin to fill in. When terminal shoots begin to fill out, keep them trimmed to the size of the ball that you wish. This encourages branching. Usually 8"-12" is a good width for a 2' topiary. Certainly a larger one looks great and is very impressive as a specimen plant for your patio or garden.

It is necessary to secure the central stem of any topiary with a bamboo stick or metal rod to keep it straight and prevent it from being damaged. This should be done as soon as the stem needs support. Place the rod as close to the central stem as possible and push it down into the soil and roots. Use raffia or twist ties to hold the stem to the rod, making the rod and ties as inconspicuous as possible. Be sure to check these ties every month to prevent the central stem from being damaged if the tie becomes too tight.

Dr. Duke is an Economic Botanist who retired from the United States Department



of Agriculture (USDA, Beltsville, Maryland) in 1995. He has more than 30 botanical books to his credit. Currently, he teaches medical botany as distinguished lecturer with the Master of Sciences Program in Herbal Medicine at the Tai Sophia Institute in Laurel, Maryland. He was appointed honorary president of The Herb Society of America for 2006-2008.

Photo ©2009 Helen Lowe Metzman

Any of the various forms of *Laurus nobilis* can be used when creating topiary but our favorite ones are the common bay, *Laurus nobilis* or the golden bay, *Laurus nobilis* 'Aurea'. During the winter months be sure to protect your topiary from cold conditions below 30°F and give it as much sun as possible. Creating a topiary is a lot of fun and certainly gives you great reward to see what you have accomplished as well as created.

## Medicinal Comments on Bay and OLD BAY®

### Dr. James A. "Jim" Duke

Recently I published *Duke's Handbook of Medicinal Plants of the Bible*. Many Biblical spices have what I call level two evidence, with clinical proof (much more important, and usually from recent research) or historical approval by Commission E (A German Commission that assessed the safety and efficacy of herbs) for certain indications. I have scored over 3,000 medicinal herbs on a four level classification of evidence for efficacy.

- f** = folkloric evidence only
- 1** = animal, chemical (isolated phytochemical, in vitro or in vivo) or epidemiological evidence
- 2** = clinical proof for a plant's extracts (or historical approval by Germany's Commission E., or by the Caribbean TRAMIL Commission)
- 3** = clinical proof for the plant itself (for example bilberry, garlic, ginger, turmeric etc.) (or historical approval by Germany's Commission E., or by the Caribbean TRAMIL Commission)

### DIABETES

In the case of bay, herb of the year, I still have no level 2 evidence for any indication. But bay leaf was one of four spices (bay, cinnamon, clove, turmeric) studied by USDA's Dr. Richard Anderson. He suggested that less than a spoonful of either could improve insulin metabolism dramatically. So in my *The Green Pharmacy* (1997) I created the formula "dia-beanie soup" food pharmacy for diabetes.

An outstanding USDA scientist, Dr. Richard Anderson demonstrated bay leaves experimentally helps improve insulin utility. The leaves do lower blood sugar levels in experimental animals. I add bay leaves in my Dia Beanie Soup (yes, a soup with a medicinal intent, something the FDA is trying to curb and I am trying to stimulate). Most beans contain slow release carbohydrates and the beans themselves are hypoglycemic. So is the bay, as proven experimentally by Dr. Anderson. Let's add some other compatible spices, especially garlic and onion, and hot pepper, each of which offer other substances against the diabetes. Dashes of rosemary, sage and tarragon also add their anti-diabetic potential, such that the soup contains more than a dozen anti-diabetic phytochemicals.

I enjoy the bay-bean Dia Beanie soup with the bay "insulinade" that I proposed in the *The Green Pharmacy*. Start out with Anderson's mix: bay leaf, cinnamon, cloves and turmeric. Add a pinch or two of each of them to a teapot and steep for ten minutes. I'd also add fenugreek which is well proven and a pinch of coriander and cumin (evidence not so strong). In animal studies, both have been shown to lower blood sugar somewhat and the rosemary, sage and tarragon go as well with the insulinade. Don't use sugar with the tea and instead add stevia, a non-nutritive sweetener which has its own hypoglycemic phytochemicals.

These days, methicillin resistant *Staphylococcus aureus* (MRSA) is getting worse and worse, especially that acquired in hospitals. Hospitals may discharge patients with MRSA infections if they can be safely treated at home. There are now a number of antibiotics used to effectively treat methicillin resistant staphylococcal infections. Bay is just one of several spices that contain anti-MRSA phytochemicals. In 2008, Japanese scientists identified two chemicals in bay leaf extracts (probably bay leaf tea) which were active, not only against MRSA but also another bacteria, *Enterococcus*. (which is developing resistance to vancomycin, but is fortunately sensitive to newer antibiotics).

But this scores only a one in my evidence base. Those two compounds are just two, in dilute concentrations, among thousands of other biologically active compounds in bay. They would need to be concentrated to have any effect against the serious MRSA infection. Even if these were used pure, just one or two compounds, the MRSA would quickly become resistant to them. You'd need a cocktail of several natural anti-MRSA phytochemicals to reinforce the pure

synthetic antibiotics. Other herbs with anti-MRSA activity include the Biblical garlic, leek and onion, also green tea and turmeric.

### ARTHRITIS

The bay contains half a dozen natural COX-2-Inhibitors that your genes may have known for thousands or millions of years, depending on whether you are faith based (bay does occur in the Holy Land) or evolutionist. (Natural COX-2-Inhibitors, like the synthetics Celebrex or Vioxx, can relieve inflammation.)

Here are the 6 compounds that are COX-2-Inhibitors in bay

(+) catechin	kaempferol
caffeic acid	parthenolide
eugenol	quercetin

You can find dozens of other activities of these and dozens of other useful phytochemicals on my public domain USDA database.

<http://www.ars-grin.gov/duke>.

### OLD BAY® SEASONING COX2-INHIBITORS AND ARTHRITIS

Arthritis away with OLD BAY®? Wow - OLD BAY® Seasoning has many other COX-2-inhibiting spices in its formulation too. I suppose our herb of the year, bay, like Chesapeake Bay, contributed to the name of the familiar Old Bay®. Both the black and red pepper are important, the red pepper's very potent capsaicin and the black pepper's piperine which facilitates the uptake of the curcumin.

Old Bay® contains several spices which contain collectively more than 13 COX-2-Inhibitors: apigenin, caffeic acid, capsaicin (more potent than Vioxx), (+) catechin, cinnamaldehyde, eugenol, 10-gingerol, kaempferol, oleanolic acid, 8-paradol, parthenolide, quercetin, salicylates, and shogaol.

### HEADACHE

I am perhaps still alone in suggesting that bay leaf might work like the very bitter feverfew in preventing migraines. But bay contains some of the same compounds, parthenolides, suggested by some scientists of underlying the anti-migraine activity of feverfew. I'd mix the feverfew and the bay if I were targeted for migraine. Here are some phytochemicals from bay that might contribute to the relief of migraine in addition to those natural COX-2-I's.



**A Poem on Bay**

by Jim Duke

Hurray; old bay Hey hey; old bay;  
 Can you really keep arthritis away?  
 The spices that you use; can curb all my  
 COX-2's  
 Good ole boys, we can rejoice, in good old bay

The first thing that you need,  
 Is some cel'ry seed  
 Then the mustard's curcumin  
 With red pepper's capsaicin

Capsaicin really rocks  
 Equipotent with vioxx  
 And black pepper's piperine  
 Helps the uptake of curcumin

And the laurel in the mix (bay leaf that is)  
 Of COX-2'is, count them, six  
 Cloves can join them all all  
 With clove oil or eugenol

And then the allspice  
 Kinda like the old spice  
 And ginger tops 'em all  
 For gingerols and shogaol;

And mace has kaempferol  
 Along with eugenol;  
 Cardamom and cinnamon  
 Can stop the pain again,

A bit milder and meeker  
 Is my fav'rite paprika  
 Old bay; pray say  
 Can you really keep arthritis away?  
 The spices that you use can curb all my  
 COX-2s  
 Good ole boys, we can rejoice, in good old bay  
*Dr. James Duke*

**BAY PHYTOCHEMICALS AND MIGRAINE**

<http://www.ars-grin.gov/duke/dev/all.html>

- **5 HT Inhibitor**  
 parthenolide; rutin
- **Analgesic**  
 borneol; caffeic acid; camphor; caryophyllene; eugenol; linalool; mannitol;  
 myrcene; p-cymene; quercetin; reticuline; terpineol; thymol
- **Anesthetic**  
 1,8 cineole; benzaldehyde; camphor; carvacrol; cinnamic acid; eugenol;  
 linalool; methyl eugenol; terpineol; thymol
- **Anti-inflammatory**  
 (+) catechin; (-) epicatechin; 1,8 cineole; alpha pinene; alpha terpineol;  
 artecanin; beta pinene; boldine; borneol; caffeic acid; carvacrol;  
 caryophyllene; caryophyllene oxide; cinnamic acid; delta 3 carene; eugenol;  
 eugenyl acetate; isoquercitrin; kaempferol; limonene; linalool; mannitol;  
 parthenolide; quercetin; quercitrin; rutin; salicylates; santamarin;  
 santamarine; thymol
- **Anti-migraine**  
 parthenolide
- **Anti-neuralgic**  
 camphor; parthenolide
- **Anti-nociceptive**  
 (+) galocatechin; 1,8 cineole; isoquercitrin; myrcene; quercetin; rutin
- **Antispasmodic**  
 1,8 cineole; alpha pinene; alpha terpinene; benzaldehyde; beta pinene;  
 borneol; bornyl acetate; caffeic acid; camphor; carvacrol; caryophyllene;  
 cinnamic acid; eugenol; eugenyl acetate; geraniol; kaempferol; limonene;  
 linalool; mannitol; myrcene; neral; p-coumaric acid; parthenolide; quercetin;  
 quercitrin; reticuline; rutin; santamarin; santamarine; terpinen 4-ol;  
 terpineol; thymol; valerianic acid
- **COX-2 Inhibitor**  
 (+) catechin; caffeic acid; eugenol; kaempferol; parthenolide, quercetin

**Dr. Jim Duke's Lentil Soup**

One serving

1/2 cup dry lentils, wash and strain off any stones, soak 1 hour

1 heaping teaspoon dry fenugreek seed

1/2 cup chopped onion

Chives

Leeks

Ramps

Scallions

Mix and match the *Allium* as available.

Dash of curry or powdered turmeric

Oregano or Biblical hyssop

1 whole bay leaf

1/2 clove garlic

Simmer two hours or until tender, salt, pepper and paprika to taste.

*After my November tasting, I'm cutting back on the fenugreek, too bitter for my occidental palate, although my sample soup was much better the day after, losing most of the bitterness; matter of fact, it was great with diced raw onion.*

*Note: More importantly parthenolide, and hence bay, can be added to an immune boosting lentil soup.*

• **Counter-irritant**

1,8 cineole; camphor; formic acid; thymol

• **Cyclooxygenase Inhibitor**

(+) catechin; carvacrol; kaempferol; parthenolide; quercetin; thymol

• **Myorelaxant**

1,8 cineole; boldine; borneol; bornyl acetate; eugenol methyl ether; limonene; methyl eugenol; myrcene; rutin; thymol

• **Sedative**

1,8 cineole; alpha pinene; alpha terpineol; benzaldehyde; beta eudesmol; borneol; bornyl acetate; caffeic acid; carvone; caryophyllene; citral; eugenol; geraniol; geranyl acetate; limonene; linalool; methyl eugenol; nerol; p cymene; thymol

• **Tranquilizer**

alpha pinene; borneol

• **Vasodilator**

(-) epicatechin; eugenol; kaempferol; proanthocyanidins; quercetin; rutin  
Source: <http://www.ars.grin.gov/duke/dev/all.html>

Back in the days of the anthrax scare at Brentwood outside Washington I figured that garlic and bay might boost the immune system to ward off an anthrax infection. The authorities always tell us that we are more liable to get an infection if we have a depressed immune system. I've never heard them tell us that boosting our immune systems can help prevent the infection from getting the upper hand.

Garlic will keep the neighbors away but not their germs. When it comes to stray anthrax or bubonic plague, it might help to at least complement the several antibiotics used to treat these serious infections. There are no clinical trials comparing these antibiotics with lentil soup or garlic or bay leaf. Perhaps this will never happen. However, I'd bet more on garlic or bay leaf than the lentil soup, which dilutes garlic and bay leaf. Lentil soup, if pleasing, can boost the immune system (if you'll take your mind off anthracophobia), while providing hundreds of gentle antiseptic phytochemicals.

### BAY LEAF AND BUBONIC BUZZWORDS

Saturday I dressed down my sister-in-law for leaving big pieces of bay leaf in that great stew she whipped up. I told her that there have been a few deaths due to pieces of bay leaf lodging in the gullet or esophagus. So you should steep it in your stews and remove, as in a muslin tea bag or you should completely pulverize it. Little could I have predicted then that two days later, I'd be suggesting that bay leaf be added to my pox-busting lentil soup.

If the anthracophobia led you to drink too much booze, Japanese scientists identified half a dozen ethanol-absorption- inhibitors from bay leaf. Through a bioassay-guided separation using inhibitory activity on blood ethanol elevation in oral ethanol-loaded rats, various sesquiterpenes (costunolide, dehydrocostus lactone, zaluzanin-D, reynosin, santamarine, 3alpha-acetoxyeudesma-1,4(15),11(13)-trien-12,6alpha-olide (6) and 3-oxoeudesma-1,4,11(13)-trien-12,6alpha-olide) were identified as the active principles from the leaves. Some of the sesquiterpenes seem to selectively inhibit ethanol absorption.

### BAY LEAF FOR INFECTION

- **Analgesic**

borneol; caffeic acid; camphor; eugenol; myrcene; p-cymene; quercetin; reticuline

- **Anesthetic**

1,8 cineole; benzaldehyde; camphor; carvacrol; cinnamic acid; eugenol; linalool; methyl eugenol; thymol

- **Antibacterial**

(-) epicatechin; (-) epigallocatechin; 1,8 cineole; acetic acid; alpha pinene; alpha terpineol; benzaldehyde; bornyl acetate; caffeic acid; carvacrol; caryophyllene; cinnamic acid; citral; delta 3 carene; delta cadinene; eugenol; geraniol; isoquercitrin; kaempferol; limonene; linalool; methyl eugenol; myrcene; neral; nerol; p-coumaric acid; p-cymene; parthenolide; perillyl alcohol; quercetin; quercitrin; reticuline; rutin; terpinen 4-ol; terpineol; terpinyl acetate; thymol

- **Anti-nociceptive**

myrcene

- **Antiseptic**

1,8 cineole; actinodaphnine; alpha terpineol; benzaldehyde; beta pinene; caffeic acid; camphor; carvacrol; carvone; citral; eugenol; formic acid; geraniol; guajaverin; hexanal; hexanol; kaempferol; limonene; linalool; methyl eugenol; nerol; parthenolide; proanthocyanidins; terpinen 4 ol; terpineol; thymol

- **Antiviral**

(-) epicatechin; alpha pinene; beta bisabolene; bornyl acetate; caffeic acid; kaempferol; limonene; linalool; neryl acetate; p cymene; proanthocyanidins; quercetin; quercitrin; rutin

- **Fungicide**

1,8 cineole; acetic acid; caffeic acid; camphor; caprylic acid; carvacrol; cinnamic acid; citral; elemicin; eugenol; geraniol; linalool; methyl eugenol; myrcene; p coumaric acid; p cymene; parthenolide; perillyl alcohol; propionic acid; reticuline; terpinen 4 ol; terpinolene; thymol . Fungistat: formic acid; limonene; methyl eugenol

- **Immunostimulant**

(+) catechin; (-)epicatechin; astragalin; benzaldehyde; caffeic acid

Pat is a culinary herbalist, photographer, writer, and lecturer from Neustadt,



Ontario. Author of several award-winning books, Pat's latest book, *The Vegetarian Cook's Bible* is available now. Her other books include *The Healing Herbs Cookbook*, *The Juicing Bible* and *The Smoothies Bible*, all available at bookstores throughout Canada and the United States.

## The Big Taste of Bay

### Pat Crocker

With its sweet, slightly pungent balsamic aroma and spikes of nutmeg and camphor, the beauty of cooking with bay is that it releases its flavor slowly, so that it is an essential herb for slow, long cooking techniques.

Stocks, soups, stews, sauces, marinades, stuffing and pickles benefit from the addition of fresh or dried bay leaves. Garnishing cooked or cold-pressed paté or terrines with a leaf or two infuses the spicy essence of the Mediterranean, its native homeland. Fish dishes are enhanced by the combination of bay and fennel; lamb and other robust meats may be stewed or grilled with bay as a key ingredient; bay adds the characteristic flavor to béchamel sauce; tomatoes, oregano, thyme and bay are the foremost ingredients in tomato sauce; bay is a popular herb used to flavor wines; and it is positively brilliant in baked bean and lentil dishes.

*Bouquet garni* is the French name for a bundle of cooking herbs tied together with string and used to flavor slow-cooked dishes. Whole fresh sprigs and leaves are preferred but dried herbs are a practical option. The traditional bouquet garni combination is thyme, parsley and bay. Often the sprigs of thyme and parsley are wrapped in a large bay leaf, tied and hung to dry and stored in a cool, dark place for using throughout the winter months.

Sweet dessert dishes also benefit from the addition of bay. Custard, poached fruit, sweet sauces, simple sugar syrup, and rice desserts are richly complex thanks to the addition of bay.

Fresh leaves store best if wrapped in a moistened tea towel and placed in a sealed plastic bag on the door of the refrigerator. Fresh leaves need to be rubbed or crushed to release their aromatic compounds. Keep dried bay leaves whole in an airtight container in a cool dark place. Store dried bay leaves for one year and then replace with fresh, because the essential oils dissipate over time. Usually, whole leaves are added to foods at the beginning of the cooking time and removed at the end. One or two whole leaves are enough to spice up a dish that serves 4 to 6 people. Rarely are bay leaves crushed before using, except when being used in a tea blend, because the smaller bits are too difficult

**Bay complements the following herbs in foods**

Allspice  
Cardamom  
Garlic  
Lovage  
Marjoram  
Oregano  
Parsley  
Sage  
Savory  
Thyme

to remove from the cooked dish. Even rarer is ground bay because the whole leaves flavor dishes without the trouble of grinding.

### HOT AND SOUR SUMMER SOUP

Serves 4

If you have the time, simmer the soup on low heat for 2 or 3 hours the way Asian cooks do. Keep the lid on in order to trap water-soluble nutrients that would otherwise escape in the steam.

1 cup finely chopped onion  
2 tablespoons olive oil  
2 cups finely diced turnip or rutabaga  
2 cloves garlic, finely chopped  
1 cup thinly sliced shiitake mushrooms  
5 cups vegetable stock  
3 tablespoons rice vinegar  
2 tablespoons tamari or soy sauce  
2 tablespoons molasses  
2 fresh or dried bay leaves  
1/4 to 1/2 teaspoon hot sauce  
Sea salt and pepper, to taste

In a large saucepan or soup pot, sauté onions in oil over medium heat for 7 minutes or until soft. Stir in turnip or rutabaga and garlic. Cook for 5 minutes, stirring often. Stir in mushrooms, stock, vinegar, tamari, molasses and bay leaves. Cover, reduce heat and simmer for about 25 minutes or until vegetables are tender.

Remove soup from heat. Stir in the hot sauce 1/4 teaspoon at a time, tasting after each addition, until hot enough. Taste and add salt and pepper as required.

– Recipe ©2009 Pat Crocker

Arame, a sea vegetable commonly used in Japanese cooking, can be added directly to the pot, no need to pre-soak. The okra thickens the gumbo and adds an authentic flavor to the dish, but if it is not available, replace it with chopped green pepper.

## SEA GUMBO

Serves 4

- 1 cup chopped onion
- 1 leek, white and tender green parts, sliced
- 3 cloves garlic, finely chopped
- 1 red bell pepper, chopped
- 1 celery stalk, chopped
- 2 tablespoons olive oil
- 1 cup vegetable stock, divided
- 1 can (28 ounces) tomatoes and juice
- 1 cup chopped okra, or green bell pepper
- 1 bay leaf
- 3 tablespoons fresh thyme leaves
- 1 cup arame
- 1/2 to 2 teaspoons ground cayenne pepper

In a large saucepan or soup pot, combine onion, leek, garlic, red pepper, celery, oil and 1/4 cup of the stock. Bring to a light boil over medium heat. Reduce heat and simmer gently for 10 to 12 minutes or until vegetables are soft.

Stir in the remaining 3/4 cup stock, tomatoes and juice, okra, bay leaf, thyme and arame. Cover and simmer stirring occasionally for 35 minutes or until arame is tender. Remove from heat, taste and add cayenne pepper, a little at a time, until desired taste is achieved. Ladle into soup bowls and serve.

Tip: Arame is a black, shredded sea vegetable available dehydrated, in packets, in Asian grocery stores. It usually requires a few minutes of soaking to reconstitute but isn't necessary for this recipe.

– Recipe ©2009 Pat Crocker

This is a classic southern dish using the spicy essence of bay. You may add 1 pound large shrimp in place of/or in addition to the mussels.

### **JAMBALAYA – PART 1**

Serves 6

4-quart stockpot for mussels  
2 pounds fresh mussels in the shell  
8+ cups water  
1 lemon  
1 onion, quartered  
3 tender celery stalks, cut into pieces, leaves intact  
3 sprigs parsley  
2 bay leaves

Scrub mussels in cold water and pull out the beards. Discard any with broken shells or that remain open when tapped. In a large stockpot, bring water to a boil over high heat.

Meanwhile, wash lemon, trim off and discard ends. Chop into coarse pieces with rind on.

Drop mussels, lemon, onion, celery, parsley and bay into boiling water. If necessary, add more water to cover mussels and vegetables. Bring to a gentle simmer. Cover, reduce heat and simmer 2 to 3 minutes or until shells open. Turn off heat, set covered pot aside to cool.

Set a large colander over a large bowl and strain off stock. Measure 3 cups mussels stock and set aside. Cool remaining stock and refrigerate or freeze for another use. Separate mussels from their shells. Set mussels aside. Discard shells and all other solids.

### **JAMBALAYA – PART 2**

1 to 2 tablespoons Cajun Black Spice, divided  
3 tablespoons olive oil  
2 cups chopped onion  
1 cup chopped celery  
1 cup chopped red bell pepper  
4 cloves garlic, finely chopped  
1 cup tomato sauce

3 cups mussels stock (above), divided  
1/2 cup brown rice  
1/2 cup wild rice  
2 green onions, sliced on the diagonal  
1/4 cup chopped fresh parsley  
1 tablespoon fresh thyme leaves  
1 tablespoon chopped fresh basil  
2 teaspoons Worcestershire sauce  
1/2 teaspoon salt

In a large saucepan or soup pot, combine 1 tablespoon Cajun Black Spice and oil to make a paste. Heat gently over medium-low heat. Stir in onion and cook over medium heat for 5 minutes. Stir in celery, pepper, garlic, tomato sauce and 1/4 cup of the stock. Reduce heat and simmer gently for 10 minutes.

Stir in the remaining 2-3/4 cups stock. Increase heat and bring to a boil. Stir in white rice, wild rice, green onions, parsley, thyme, basil, Worcestershire sauce and salt. Cover, reduce heat to low and simmer for 40 minutes. Do not lift the lid or stir the jambalaya but be sure that heat is turned low.

Remove from heat, taste, add the remaining tablespoon of Cajun Black Spice or more salt if required. Stir in reserved mussels and serve immediately.

– Recipe ©2009 Pat Crocker

This is one of those weekend dishes that can simmer on the stove most of the day—just keep adding stock to the mixture as it thickens and concentrates the flavors.

## WINTER CASSOULET

Serves 6

1/4 cup whole wheat flour  
1 tablespoon dry mustard powder  
1 small eggplant, cut into 1-inch pieces  
2+ tablespoons olive oil  
1 cup chopped onion  
1 cup chopped celery  
1 can (28 ounces) tomatoes and juice  
1 cup vegetable stock  
1 can (5 ounces) tomato paste

3 tablespoons minced anchovies  
2 bay leaves  
3 carrots, sliced  
1/2 pound mushrooms, cleaned, patted dry and sliced  
1/4 cup water  
1/2 cup black olives, pitted and sliced, optional  
1 tablespoon chopped fresh savory  
Freshly ground pepper

In a medium bowl, combine flour and mustard powder. Add eggplant and toss to coat.

In a large saucepan or soup pot, heat 2 tablespoons of the oil over medium heat. Using tongs, lift enough eggplant into pot to cover bottom in one layer. Brown lightly on all sides. Lift out to a plate. Add more oil if required and continue browning eggplant until all are done. Set both flour mixture and eggplant aside.

Drizzle more oil in the pan if required, heat and add onion and celery, and sauté for 5 minutes. Stir in tomatoes and juice, stock, tomato paste, anchovies, bay and eggplant (with any juices that have accumulated in the bowl). Bring to a boil, reduce heat and simmer for 45 minutes.

Stir in carrots and mushrooms. Simmer for 15 minutes or until vegetables are tender. Slowly stir water into the reserved flour mixture to make a smooth paste, stir into the vegetable cassoulet. Add olives, savory and pepper. Simmer for another 15 minutes. Remove from heat and remove bay leaf, serve immediately.

Note: Add 1/2 teaspoon salt if both anchovies and olives are omitted.

– Recipe ©2009 Pat Crocker

Flavorful and nutritious, this is both a family and a casual company entrée.

## VEGETABLE RED CURRY

Serves 4 to 6

- 1/4 pound green beans, trimmed and cut in 1-inch pieces
- 1 tablespoon powdered curry
- 2 tablespoons olive oil
- 1 cup chopped onion
- 1 pound potatoes, peeled and cut into 1-inch cubes
- 1 carrot, sliced on the diagonal
- 2 bay leaves
- 1 lemongrass stalk, tops and outer leaves removed
- 1 clove garlic, finely chopped
- 1 teaspoon salt
- 1/2 cup vegetable stock or water
- 2 1/2 cups coconut milk
- 2 zucchini, cut into 1-inch pieces
- 1 red bell pepper, coarsely chopped
- 1 can (14 ounces) hearts of palm, drained and coarsely chopped

In a small saucepan, cover beans with water and bring to a light boil over medium heat. Cover, reduce heat and simmer for 7 minutes or just until tender. Drain and set aside.

In a large saucepan or soup pot, combine curry powder and oil to make a paste. Gently heat over medium heat. Add onion and sauté for 5 minutes or until onions soften. Stir in potatoes, carrot, bay, lemongrass, garlic, salt and stock. Cover, reduce heat to low and simmer gently for 7 minutes or until stock is almost gone.

Stir in coconut milk, zucchini, red pepper and hearts of palm. Cover and simmer gently for 15 minutes. Add cooked green beans and heat through. Remove from heat and remove bay leaves and lemongrass stalk. Serve immediately.

Substitution: Use 1 cup sliced green cabbage in place of the green beans and in step 1, blanch for 3 to 4 minutes until soft, drain and set aside. Add to the curry with the potatoes in step 2.

– Recipe ©2009 Pat Crocker

Make this easy compote when fresh fruit is plentiful and serve with frozen yogurt or toss with cooked rice for a healthy rice pudding. Make double and triple batches and freeze for later.

Use other fall fruit such as apples and plums in place of the pears.

### **GINGERED SUMMER FRUIT**

Makes 2 1/2 cups

- 1 pound fruit, peeled and pitted
- 1/4 cup brown rice syrup
- 1 bay leaf
- 2 teaspoons minced fresh ginger
- 2 tablespoons freshly squeezed lemon juice
- 1 tablespoon agar agar flakes

Cut larger fruit into quarters and smaller fruit into halves. In a non-reactive medium saucepan, combine fruit, syrup, bay and ginger. Cover and cook over medium heat for 5 minutes or until juices release and fruit is slightly tender.

Stir in lemon juice and agar agar. Cook for 2 minutes, stirring constantly. Serve warm or chilled (the mixture will thicken when cooled).

Tip: Use fresh nectarines, peaches, plums, cherries, blackberries, gooseberries, elderberries or black currants.

– Recipe ©2009 Pat Crocker

### **POACHED PEARS WITH APRICOT GINGER SAUCE**

Makes 8 halves

- 1 1/2 cups apple juice
- 1/2 cup white wine
- Half vanilla bean
- 1 3-inch licorice root
- 1 bay leaf
- 4 pears, halved
- 1/3 cup finely chopped dried apricots
- 1 teaspoon finely chopped candied ginger
- 1 cup yogurt, optional for garnish

In a large skillet, combine apple juice, wine, vanilla, licorice and bay. Bring to a gentle boil over medium-high heat. Add pear halves, cut side down. Cover, reduce heat and gently simmer for 7 minutes or until pears are crisp-tender.

Remove pear halves from poaching liquid, set aside. Remove and discard vanilla, licorice and bay from poaching liquid. Add apricots and ginger and bring to a boil over high heat. Reduce heat and simmer, stirring occasionally for 15 to 20 minutes or until liquid is reduced and syrupy.

Meanwhile, remove and discard core from pear halves. Arrange pears on individual plates, spoon apricot sauce over. Garnish with yogurt if using. Serve immediately.

– Recipe ©2009 Pat Crocker

### **ROSEMARY CUSTARD**

Serves 4

1/2 cup soy or rice milk  
1 whole (3-inches) vanilla bean  
1 bay leaf  
1 sprig rosemary  
12 ounces firm silken-style tofu

In a small saucepan, combine milk, vanilla, bay and rosemary. Cover and bring to a light simmer over medium-low heat. Remove from heat and cool with lid on. Strain and discard vanilla, bay and rosemary.

In a blender or food processor, process tofu for 30 seconds or until smooth. With motor running, add infused milk through opening in the lid. Custard should be blended and smooth.

For storage keep covered tightly in the refrigerator for 1 to 2 days. To serve spoon over poached pears, peaches, cherries or baked apples. Pass as a sauce for gingerbread or breakfast grain dishes.

– Recipe ©2009 Pat Crocker

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## The Flavor and Fragrance of Bay

### Susan Belsinger

In the kitchen, bay's sweet balsamic aroma wafts from freshly baked breads, puddings and custards. It is essential to bouquet garnis for soups and stews, sauces and ragouts. Bay enhances cooked or marinated vegetables and fruits and is cooked with every variety of meat and most kinds of fish and shellfish. Bay leaves are in the stuffings of or simply alongside many roasted fowl dishes. I agree with Tom Stobart author of *Herbs, Spices and Flavorings* that "No kitchen should exist without bay leaves, and they should be used as a matter of habit," and believe that bay adds depth and warmth to most kinds of sweets and savories.

The major contribution of bay to foods is its fragrance, sweet but not cloying, pervasive but not overpowering. If you are fortunate enough to have walked through a forest with many bay trees, you will understand the almost incredible refreshing power of bay's scent. Its blend of balsam and honey, with hints of spice as in nutmeg and clove are predominant in the first inhale. These scents are followed by just a suggestion of citrus of orange and/or lemon, sometimes followed by faint flowery tones described as vanilla or rose, and occasionally a hint of mint. I find the fragrance heady; these subtle combinations and other more ethereal echoes must be an ideal of master perfumers. The peak of bay's aroma is between three days and a week after it has been picked; this brief drying time concentrates the oils just enough.

Although the taste can be complex and aromatic, it can also be sharp, slightly peppery, or even a bit bitter. Most cooks use the whole leaves and remove them before serving, though traditionally the guest who has the leaf in their portion was due to receive some minor or major fortune. Crumbled or crushed bay leaves have very sharp edges; they should be enclosed in a bouquet garni bag, or something similar, so that unsuspecting eaters do not come across them. In general, the leaves should be added when the cooking begins. Commercially dried bay should be bought carefully from a spice merchant as leaves can be old and fairly tasteless. Growing your own bay and using it fresh or drying it yourself is the way to go.

Herb syrups are wonderful flavor essences that can be added in place of the liquid in cakes, pie filling, and drizzled over all type of baked goods. They are good on all kinds of fruits and fruit salads, used in beverages, and to make sorbets. My favorite use for bay syrup is on fresh seasonal fruit; probably peaches and nectarines are my first choice, although it is lovely on apples, pears, oranges and pineapple. It is delightful added to a piña colada. My friend Chuck Voigt likes it on vanilla ice cream.

This syrup is very sweet and concentrated; usually I make a less sweet syrup by using 2 parts water to 1 part sugar (I use the less sweet syrup in my herbal libations and on fresh fruit).

This chocolate-rich pudding is redolent with the aroma of bay that lingers on your palate. Fresh bay leaves give the pudding a wonderful fragrance that you don't get when you use dried bay leaves. I generally harvest bay leaves and keep them in a plastic bag that is not sealed, on the door of the fridge for up to three months. I believe they have a better flavor if they are harvested a day or two ahead of when they are to be used; this way I always have them on hand.

Most pudding is served cold, but I prefer mine at cool room temperature so you really taste the flavors—this one is delicious even before it is chilled. This is also delectable when prepared with a handful of any of the mints—orange mint, spearmint, or peppermint.

## BAY SYRUP

Makes about 3 cups

1 1/2 cups water  
1 1/2 cups sugar  
10 to 12 bay leaves

To make herb syrup, combine the water and sugar in a small saucepan. Add the herb leaves and bruise them gently against the side of the pan with a spoon. Place over moderate heat and bring to a boil. Cover, remove from heat and let stand for at least 30 minutes; it is best if allowed to cool to room temperature. Remove the leaves and squeeze them into the syrup to extract their flavor. This syrup can be made ahead and refrigerated for about 10 days, or frozen for up to 6 months.

— Recipe ©2009 Susan Belsinger

## CHOCOLATE PUDDING WITH BAY

Serves 6

2 cups half-and-half cream  
3 large fresh bay leaves or 2 dried bay leaves  
3 tablespoons cornstarch  
2/3 cup sugar  
2 pinches salt  
1/4 cup unsweetened cocoa  
1/2 cup milk  
3 ounces bittersweet or semisweet chocolate, cut into small pieces  
1/2 teaspoon pure vanilla extract

Heat the half-and-half cream with the bay leaves in a heavy-bottomed saucepan over medium heat. When the cream starts to bubble around the edges of the pan, remove from heat and cover. Let stand for 30 minutes.

After the bay has infused in the cream for nearly 30 minutes, combine the cornstarch, sugar, salt, and cocoa in a bowl and add the milk, whisk the

This recipe first appeared in *Gourmet Magazine* in 1980, and in *Cooking with Herbs* by Susan Belsinger and Carolyn Dille, Van Nostrand Reinhold, 1981. Though hot cross buns are a traditional Easter and Lenten bread, these handsome buns are so good we make them several times a year. We have found that all yeast breads except batter breads benefit by an overnight rise in the refrigerator. The slow rise allows the yeast to interact well with the gluten protein in flour, which produces an evenly-spaced structure and a light crumb.

In addition, a slow rise allows the gaseous by-products of yeast to escape, which results in fewer off-flavors in the bread. These buns or brioche, enriched with butter, eggs, and milk, also have the time to let the yeast/protein interactions occur completely in all of the dough mass, which lightens the baked bread. If you like a wheatier flavor, substitute up to 2 cups of whole wheat flour for white flour.

contents together. Pour the mixture into the warm cream and place over moderate heat. Continue cooking and whisking as the pudding thickens.

When the pudding begins to bubble and come to a boil, stir and boil for 1 minute. Remove the pan from heat and whisk in the chocolate pieces until they are melted. Add the vanilla and stir well. Carefully remove the bay leaves and pour the pudding into six ramekins or custard cups.

Place the custard cups on a plate or pan and allow them to come to room temperature. Refrigerate until chilled; at least 30 to 45 minutes. Serve at cool room temperature and garnish with whipped cream if desired.

– Recipe ©2009 Susan Belsinger

## BAY HOT CROSS BUNS

Makes about 36 buns

1 cup milk  
 3 large bay leaves, preferably fresh  
 1/4 cup light honey  
 1/2 cup unsalted butter, melted  
 2/3 cup currants  
 2 1/2 cups warm water  
 2 tablespoons active dry yeast  
 About 8 cups unbleached white flour  
 2 large eggs  
 1 teaspoon salt  
 1/2 cup water  
 1 egg white

Scald the milk with 3 of the bay leaves. Remove it from the heat and dissolve the honey in it. Soak the currants in 2 cups of the warm water for 15 minutes, then drain and squeeze the excess water from them. Discard the soaking water.

Dissolve the yeast in the remaining 1/2 cup warm water. Sift 8 cups of flour into a large bowl. Beat the eggs lightly and add them, along with the salt and 1/2 cup water, to the milk and honey.



Bay leaves

Photo ©2009 Susan Belsinger

If the icing is too thin, add a bit more sugar; if it is too thick, add a little more lemon juice.

When the yeast is active, add it to the flour along with the milk mixture, melted butter, and currants. Stir the liquid with a wooden spoon to incorporate about half of the flour. Remove the dough to a smooth surface and knead in the rest of the flour. Knead for about 5 minutes after the flour has been incorporated. The dough should be smooth and soft but not sticky. Knead in more flour if necessary.

Place the dough in a lightly oiled bowl and cover tightly with plastic wrap. Let the dough rise in the refrigerator overnight, or for up to 24 hours. Or let the dough rise in a warm place until doubled in size, 1 to 2 hours.

Punch the dough down and divide it in half. Remove the bay leaves as you come across them. Roll each portion into a long cylinder about 3 inches in diameter. Cut the cylinders into 1-inch slices and roll each slice into a ball. Place the balls on lightly buttered baking sheets. Cover the balls with a tea towel and let them rise in a warm place until almost doubled in size. Preheat the oven to 375 ° F.

Slash the top of each bun in a cross-shape with a sharp knife. Beat the egg white until frothy and brush each bun lightly with it.

Bake the buns for 15 to 20 minutes, until they are a rich golden brown. Remove the buns from the oven and let them cool to room temperature. Drizzle them with Simple Icing along the slash marks if desired.

– Recipe ©2009 Susan Belsinger

### **SIMPLE ICING**

Makes about 1/2 cup of icing

- 1 tablespoon lemon juice
- 1 tablespoon water
- 1 cup confectioners' sugar

Combine all ingredients in a bowl and whisk until smooth. Drizzle the icing over the cooled Bay Hot Cross Buns, or other sweet rolls, or cookies.

– Recipe ©2009 Susan Belsinger

Betsy Williams has been growing, selling, decorating and teaching about living with herbs and flowers since 1972.



Trained as a florist in Boston and England, she combines her floral and gardening skills with history, plant lore and seasonal celebrations. She has been featured in many books, national magazines and newspapers, Betsy is the author of *Potpourri* and *Fragrant Crafts* and her latest book *Mrs. Thrift Cooks*, a collection of family-friendly recipes. She was a founding member of the International Herb association She is a member of The Herb Society of America and Garden Writers of America.



Roses, rosemary, globe amaranth  
Photo ©2009 Theresa Mieseler

## Betsy's Christmas Potpourri

### Betsy Williams

Bay leaves, red rose petals, pomegranates, rosemary and red globe amaranth mingled with the fragrances of rosemary, apple and cinnamon help bring Christmas to into your home. Use sprigs of fresh rosemary to form a wreath around the base of the display container.

### Tools & Utensils

- Set of stainless steel measuring spoons
- Small glass jar with a tight-fitting lid
- Eyedropper
- Stainless steel spoon
- 1-gallon glass jar with a tight fitting lid

### Dried Herbs and Flowers

- 4 ounces red rose petals
- 4-5 miniature pomegranates
- 1 ounce red globe amaranth flowers
- 2 ounces large cinnamon chips and pieces
- 1 ounce bay leaves
- 2 ounces dried rosemary

### Fixatives

- 7 tablespoons cut and dried orris root chunks
- 2 tablespoons orris root powder

### Oils

- 1/2 teaspoon apple fragrance oil
- 1/4 teaspoon cinnamon oil
- 1/4 teaspoon rosemary oil

Place the orris root chunks and powder in a small glass container. Pour the apple, rosemary and cinnamon oils, a drop at a time, onto the orris root chunks and powder. Stir the oils, orris root chunks and powder together with a stainless steel spoon to blend the mixture thoroughly. Place the orris root mixture in a gallon-size glass jar. After 1 hour, add the orris root mixture to the rose petals, pomegranates, globe amaranth flowers, cinnamon, bay leaves and rosemary and blend thoroughly. Place in a large container with a cap and allow the potpourri to mature for 2–4 weeks.

Susan Betz has been using herbs to educate children and adults for over 25 years. She owned and



operated The Little Farm Herb Shop, a garden and gift shop in Allen, Michigan for more than ten years. She has served as the first Master Gardener Coordinator for Hillsdale County and Education and Outreach Coordinator for the Slayton Arboretum at Hillsdale College. She is now pursuing her interests in freelance garden writing and lecturing.

She has been an active member of The Herb Society of America for 24 years and is currently serving as Education Chair for The Society.



Bay wreath

*Photo ©2009 Susan Betz*

## Decorating with Fresh Bay

### Susan Betz

Bay leaves are a very useful resource for creating a wide variety of herbal projects, wreaths and decorations. The fragrant, sturdy leaves dry beautifully and hold their shape indefinitely when protected from the elements. Their color and fragrance do fade with time, but many people find the soft gray-green color of the aging leaves attractive and do not miss the lack of fragrance. Bay can be used fresh or dried in most herbal projects.

Dried bay leaves can be bought in bulk throughout the year. A pound of dried bay leaves will last for years if properly stored in a glass container in a dark, dry location. If you do not have a live bay from which to harvest branches and fresh leaves, they can be purchased from late fall through early winter in herb shops and specialty stores.

### BAY WREATH

A wreath symbolizes continuity and eternity, for it is a circle without beginning or end. Bay leaves symbolize achievement, distinction and superiority. This wreath was created on a 12" crimped wire ring, wrapped with green floral tape to help prevent the plant material from slipping. Stems of fresh bay leaves approximately 8" long were laid overlapping one another other by an inch or so; then attached to the ring with flexible 28-gauge wire to form a solid wreath base. Using a hot glue gun, tips of dried Fraser fir were added for extra texture and fragrance. This wreath is accented with lavender and lemon thyme, dwarf sage, purple oregano, globe amaranth, lavender flowers and dried roses. The herbs were wrapped onto small floral picks in bundles of two or three stems before being added to the wreath.



Bay angel ornament

*Photo ©2009 Susan Betz*



Bay leaves and flower juice picture.

Flower juice and flowers are non-toxic.

*Photo ©2009 Susan Betz*

### HERB ANGEL ORNAMENT

The bay angel ornament was made from four, 3½" cinnamon sticks glued together with hot glue to form a stick figure. The lace doily was placed over the shoulders of the angel and the nutmeg was attached to the doily creating the angel's head.

The doily was then arranged and glued in place to form her robe. A thin ribbon was tied around her neck and a wee thyme and rose wreath wrapped around her head and bay leaves attached to make the wings.

### BAY LEAVES AND FLOWER JUICE PICTURE

This is a simple, low-cost project for grade school children, cub scouts or a public garden day. Twigs, fresh plant parts, seeds and bay leaves were used to make this three-dimensional picture. A heavy absorbent paper and extra-thick tacky glue works best when creating this type of project. The bay leaves were attached to the tree twigs with extra-thick tacky glue.

The lamb is made with furry lambs' ears, cattail and sunflower seeds. The juice from brightly colored flowers was used for coloring the picture. A cattail stem tied with raffia was glued to the back of the picture for a hanger.

## Bay Substitutes in Other Cultures

by Dr. Arthur Tucker

### ***Persea borbonia* – Red Bay**

The spicy leaves of red bay are used on the southeastern coast of North America as a substitute for classical bay or Grecian laurel (*Laurus nobilis*). The red bay looks and smells like Grecian laurel. While commonly gathered from the wild, it is easily cultivated from southern Zone 7 in sandy to rich, moist soil and full to part sun. This attractive evergreen is nearly pest-free and deserves to be more widely known. Many species of *Persea* have fragrant leaves, from bay-like to anise-like, and a number of species are economically important for their wood. Another bay, *P. humilis*, is used in Louisiana.

### ***Litsea glaucescens* – Mexican Bay**

Mexican bay, commonly called laurel in Mexico, has been promoted for Mexican cooking in a number of cookbooks, particularly Diana Kennedy's *Mexican Regional Cooking*. While Mexican bay has no GRAS status, the appearance and flavor are very similar to that of Grecian bay, *Laurus nobilis*, making it a good substitute. Mexican bay is gathered from the wild in Mexico. Plants of Mexican bay are not common in the United States, but cultivation is similar to that for Grecian bay. Leaves are variable, usually thinly leathery, olive-green to dark brown above when dried, blue-green to pale green below, usually lance-shaped.

### ***Umbellularia californica* – California Bay**

California bay or California laurel is very similar to *Laurus nobilis*, and some forms of both are superficially identical but readily separable by chemical and microscopic botanical characters. California bay would be a great bay substitute for cooking were it not for the fact that it has no GRAS status and the principal constituent, umbellulone, is toxic to the central nervous system when eaten and causes convulsive sneezing, headaches, and sinus irritation when inhaled deeply. Despite this, some companies market California bay, and some Californians insist this is the only bay. Other than that, California bay is a great ornamental troubled by few insects and other pests (deer usually avoid it unless starving).

## Laurel

The classic Laurel has won a place  
In the annals of the human race  
And stands for success in all the arts.  
In formal gardens she imparts  
An elegant note, She also knows  
How to garnish hotels, and auto shows,  
Serves as garlands where pictures are hung,  
Decorates halls where songs are sung.  
Her accomplishments are never-ending,  
She takes a hand a bar rum blending  
And, despite her regal manner and looks, Talented Laurel helps the cooks.

*L. Young Correthers*

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