

November 20, 2006

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**RESUBMISSION OF PETITION WITH CONFIDENTIAL BUSINESS INFORMATION  
(CBI) DELETED -- ORIGINALLY SUBMITTED ON MAY 22, 2006**

**ADDITION OF "TURKISH BAY LEAVES" TO 205.606**

**ITEM A**

This petition requests that "Turkish Bay Leaves" be added to the National List under 205.606 Non-organically produced agricultural products allowed as ingredients in or on processed products labeled as "organic". This agricultural substance is periodically unavailable in an organic form and, when available, may vary in intensity of pungent, bitter flavors making it, at times, unsuitable for use in certain organic foods. Addition of this item to 205.606 would allow for the substitution of conventional Turkish bay leaves in the instances when organic is unavailable or organic supplies are unacceptable for the intended use.

**ITEM B**

1. **Substance Name:** Turkish bay leaves (*Laurus nobilis*). Also known as Mediterranean bay leaves or sweet bay. Turkish bay leaves differ from those of other "bay leaves" (including California bay leaves *Umbellularia californica*, Indian bay leaves *Lauraceae cinnamomum tamala*, Indonesian bay leaves *Eugenia polyantha*, others).
2. **Manufacture's Name:** The following company is our primary supplier who is generally able to provide organic Turkish bay leaves:

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3. **Intended Use:** Turkish bay leaves are an agricultural ingredient used to add a subtle background flavor note to a range of products.

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4. **Mode of Action:** Discriminating chefs frequently use Turkish bay leaves and do not feel that other "bay leaves" are an acceptable substitute. Attachment 3 provides support for Turkish bay leaves' unique flavor profile as identified by chefs and spice suppliers.

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5. **Source and Manufacture:** Turkish bay leaves come from the Mediterranean region. The leaves are "fragrantly sweet with a lemon clove like taste" (see Attachment 3). The leaves of Turkish bay leaves have a unique appearance, for example, they are less glossy and more rounded at the tip than California bay leaves. Attachment 1 provides details on the difference between several types of bay leaves and indicates that, while similar, they are not identical.

Bay leaves are manually plucked and sorted and then dried. Through the appropriate drying procedure, bitterness can be significantly reduced as indicated in Attachment 2. This implies that, in addition to variety, drying procedure can significantly change the flavor profile of Turkish bay leaves.

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6. **Summary of Previous Reviews:** An internet search yielded no relevant results.
7. **Regulatory Authorities:** As stated in FDA Code of Federal Regulations (CFR 21 Section 182.10) bay leaf, *Laurus nobilis*, is listed as Generally Recognized as Safe (GRAS).

NOTE: The following citations were found and do not appear to have relevance to this petition. However, we can provide the actual citation if required.

- EPA 40 CFR Part 180, Pesticide Tolerances; revision of Crop Groups lists sweet bay leaf (*Laurus nobilis*) in Table 1-Crop Group 19: Herbs & Spices Group.
- California State Department of Agriculture Title 3, Division 4, Chapter 4 amended Section 3700, Subsection (c) on October 5, 2006, to remove *Laurus nobilis* from the list of declared hosts or potential carriers of the pest known to oak mortality disease.

8. **Chemical Abstract Service Number:** Not applicable.

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9. **Physical Properties and Mode of Action:** Other than lending a subtle flavor to a food system, no known chemical interactions, toxicity or environment adversities nor health benefits or detriments are known for intact bay leaves, the subject of this petition. NOTE: Scientific articles on bay leaf oil have been found to have health benefits such as analgesic and anti-inflammatory effects. It is also used as an insecticide against larvae of pine processionary moth. We do not think this information is relevant to this petition however if further information is required, we will provide it.
10. **Safety Information:** *Laurus nobilis* is GRAS (Generally Recognized as Safe) by the FDA (CFR 21 Section 182.10).
11. **Research Concerning the Availability of Organic Turkish Bay Leaves:** Amy's Kitchen has spent considerable time and money in the search and qualification of organic Turkish Bay Leaves.

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12. **Justification Statement:** While organic "bay leaves" are readily available (5 suppliers listed in Organic Pages Online), organic Turkish bay leaves are not always available and, if available, may not have the desired flavor, i.e., sweet flavor and minimum bitterness/harshness/pungency. Amy's Kitchen does not completely understand why some samples of bay leaves do not meet our requirements and we are not able to become more knowledgeable about this as we do not have contact with the direct growers, rather we work through organic spice suppliers. However, it has been our experience (through the evaluation of numerous samples) that organic "bay leaves" are, at times, too bitter, astringent, pungent to meet our needs. The reasons some samples may not be acceptable include substitution with a different source of bay leaves (not *Laurus nobilis*) or inappropriately drying of the leaves which results in enhanced bitterness, astringency and/or pungency.

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**RESUBMISSION OF PETITION WITH CONFIDENTIAL BUSINESS INFORMATION (CBI) DELETED**

**ADDITION OF "TURKISH BAY LEAVES" TO 205.606**

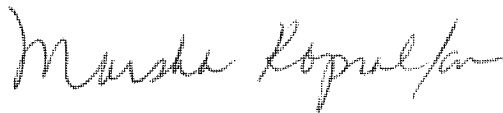
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**Conclusion:** In order to maintain the flavor profile that Amy's Kitchen's customers desire and expect, we request that Turkish bay leaves (*Laurus nobilis*) be added to the National List under 205.606 Non-organically produced agricultural products allowed as ingredients in or on processed products labeled as "organic". Amy's Kitchen intends to use organic Turkish bay leaves when supplies are available from this species of bay tree that have been appropriately harvested and dried to meet our target flavor profile (i.e., mellow flavor with low pungency and bitterness). When an organic source is not available that meets these requirements, we will provide information to our certifier QAI detailing our attempts to source organic and we will request to use conventional Turkish bay leaves that meet the same requirements. While using a conventional source, we will aggressively continue to attempt to source acceptable organic Turkish bay leaves.

Respectfully submitted:



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Attachments

# ATTACHMENT 1

## INFORMATION ON SEVERAL TYPES OF BAY LEAVES INCLUDING *LAURUS NOBILIS* (TURKISH BAY LEAVES)

### Bay Laurel

Information Source: Wikipedia, the free encyclopedia [http://en.wikipedia.org/wiki/Bay\\_laurel](http://en.wikipedia.org/wiki/Bay_laurel)

Bay Laurel

Bay Laurel ( <i>Laurus nobilis</i> ) flowers and leaves
Scientific classification
Kingdom: <u>Plantae</u>
Division: <u>Magnoliophyta</u>
Class: <u>Magnoliopsida</u>
Order: <u>Lurales</u>
Family: <u>Lauraceae</u>
Genus: <u><i>Laurus</i></u>
Species: <i><b>L. nobilis</b></i>
Binomial name
<i><b>Laurus nobilis</b></i> <u>L.</u>

The **Bay Laurel** (*Laurus nobilis*, Lauraceae), also known as **True Laurel**, **Sweet Bay**, **Grecian Laurel**, **Laurel**, or **Bay Tree**, is an aromatic evergreen tree or large shrub reaching 10–18 m tall, native to the Mediterranean region.


The leaves are 6–12 cm long and 2–4 cm broad, with a characteristic finely serrated and wrinkled margin. It is dioecious, with male and female flowers on separate plants; each flower is pale yellow-green, about 1 cm diameter, borne in pairs together beside a leaf. The fruit is a small black berry about 1 cm long, containing a single seed.

# ATTACHMENT 1

## INFORMATION ON SEVERAL TYPES OF BAY LEAVES INCLUDING *LAURUS NOBILIS* (TURKISH BAY LEAVES)

### Umbellularia

Information Source: Wikipedia, the free encyclopedia [http://en.wikipedia.org/wiki/California\\_bay\\_laurel](http://en.wikipedia.org/wiki/California_bay_laurel)

<i>Umbellularia californica</i>

Foliage and flowers
<b><u>Scientific classification</u></b>
Kingdom: <u>Plantae</u>
Division: <u>Magnoliophyta</u>
Class: <u>Magnoliopsida</u>
Order: <u>Lurales</u>
Family: <u>Lauraceae</u>
Genus: <i>Umbellularia</i> (C.G.D.Nees) Nuttall
Species: <i>U. californica</i>
<b><u>Binomial name</u></b>
<i>Umbellularia californica</i> (Hook. & Arn.) Nutt.

*Umbellularia californica* is a tree native to coastal forests of western North America. Its pungent leaves have a similar flavor to bay leaves (though stronger), and it may be mistaken for Bay Laurel.

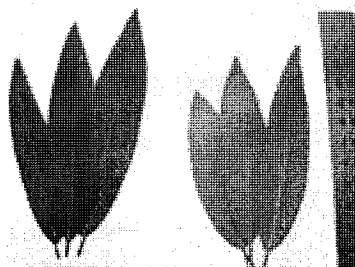
# ATTACHMENT 1

## INFORMATION ON SEVERAL TYPES OF BAY LEAVES INCLUDING *LAURUS NOBILIS* (TURKISH BAY LEAVES)

### **Umbellularia** (continued)

In Oregon, this tree is known as **Oregon Myrtle**, while in California it is called **California Bay Laurel**, which may be shortened to **California Bay** or **California Laurel**. It has also been called **Pepperwood** and **Headache Tree** (the latter from the strong scent of the crushed foliage, which can cause a headache if breathed in to excess).

It is the sole species in the genus *Umbellularia*. It ranges near the coast from Douglas County, Oregon south through California to San Diego County. It is also found in the western foothills of the Sierra Nevada mountains. It occurs at altitudes from sea level up to 1600 m.



### **Leaves**

It is an evergreen tree growing to 30 m tall (exceptionally 45 m) with a trunk up to 80 cm thick. The leaves are smooth-edged and oval, 3–10 cm long and 1.5–3 cm broad, similar to the related Bay Laurel though usually narrower, and without the crinkled margin of that species. The flowers are small, yellow or yellowish-green, produced in a small umbel (hence the scientific name *Umbellularia*, "little umbel"). The fruit is a round and green berry 2–2.5 cm long and 2 cm broad, lightly spotted with yellow, maturing purple. It consists of a fleshy covering over a single hard, thin-shelled seed.

### **Uses**

The leaves are used as a flavoring agent in cooking, just as bay leaves. The wood is very hard and fine, and is made into bowls, spoons and other small items and sold as "myrtlewood". It is also grown as an ornamental tree, both in its native area, and elsewhere further north up the Pacific coast to Vancouver in Canada, and in western Europe.

# ATTACHMENT 1

## INFORMATION ON SEVERAL TYPES OF BAY LEAVES INCLUDING *LAURUS NOBILIS* (TURKISH BAY LEAVES)

### Malabathrum

**Information Source:** Wikipedia, the free encyclopedia [http://en.wikipedia.org/wiki/Indian\\_bay\\_leaf](http://en.wikipedia.org/wiki/Indian_bay_leaf)

**Malabathrum**, also known as **Malobathrum** or **Malabar leaf**, is the name used in classical and medieval texts for the leaf of the plant *Cinnamomum tamala* (sometimes given as *Cinnamomum tejpata*). In ancient Greece and Rome, the leaves were used to prepare a fragrant oil, called *Oleum Malabathri*, and were therefore valuable. The leaves are mentioned in the 1st century Greek text *Periplus Maris Erythraei* as one of the major exports of the Tamil kingdoms of southern India. The name is also used in mediaeval texts to describe the dried leaves of a number of trees of the genus *Cinnamomum*, which were thought to have medicinal properties.

The leaves, known as *tejpat*, *tej pat*, or *tejpata* in Hindi, are used extensively in the cuisines of India (particularly in the Moghul cuisine of North India), where they are sometimes erroneously labeled as "Indian bay leaves". The bark is also sometimes used for cooking, although it is regarded as inferior to true cinnamon or cassia.

"Malabar" is the name of a region on the west coast of southern India that forms the northern portion of the present-day state of Kerala. The word "Mala" or "Malaya" means "Mountain" in the Tamil and Malayalam languages, as also in Sanskrit. The word "Malabathrum" is also thought to have been derived from the Sanskrit tamālapatram, literally meaning "dark-tree leaves".



# ATTACHMENT 1

## INFORMATION ON SEVERAL TYPES OF BAY LEAVES INCLUDING *LAURUS NOBILIS* (TURKISH BAY LEAVES)



**National Center for Biotechnology Information**

National Library of Medicine

National Institutes of Health

### Information Source:

[http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=mesh&list\\_uids=68027422&dopt=Full](http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=mesh&list_uids=68027422&dopt=Full)

### Laurus

A plant genus in the LAURACEAE family. *Laurus nobilis* L. leaves are known for use in SPICES, having a similar flavor as UMBELLULARIA.

#### Entry Terms:

- Bay Leaf
- *Laurus nobilis*
- Bay Laurel

### Umbellularia

A plant genus in the LAURACEAE family. The tree, *Umbellularia californica* (Hook. & Arn.) Nutt., is known for aromatic leaves used in SPICES having a similar flavor to LAURUS.

#### Entry Terms:

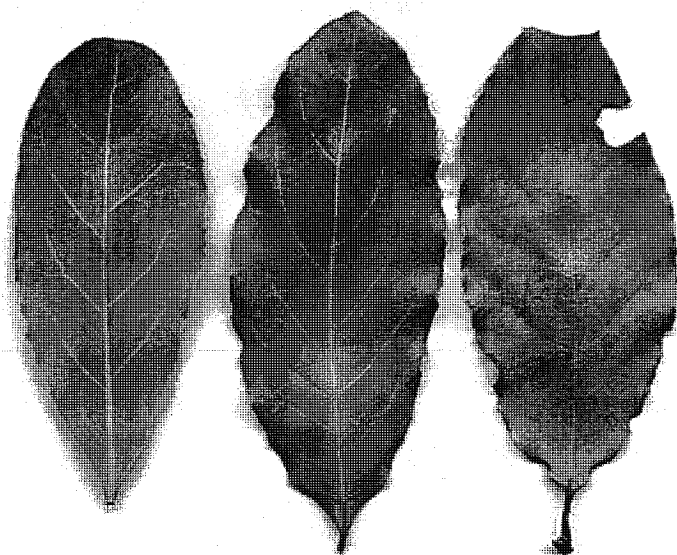
- California Bay Laurel
- Bay Laurel, California

## ATTACHMENT 2 DETAILED INFORMATION ON TURKISH BAY LEAVES INCLUDING PRODUCTION METHODS

### Gernot Katzer's Spice Pages

Information Source: [http://www.uni-graz.at/~katzer/engl/Laur\\_nob.html](http://www.uni-graz.at/~katzer/engl/Laur_nob.html)

Laurel (*Laurus nobilis* L.)



Bay leaves: lower side, upper side, old (discoloured) leaf

#### Used plant part

Leaves. Industrially, *laurel oil* is prepared from the fruits, which may also be used as a spice.

#### Plant family

Lauraceae (laurel family).

#### Sensory quality

Aromatic and slightly bitter (see also zedoary on bitter spices).

#### Main constituents

The essential oil from the leaves (0.8 to 3%) contains mostly 1,8 cineol (50%); furthermore, eugenol, acetyl eugenol, methyl eugenol,  $\alpha$ - and  $\beta$ -pinene, phellandrene, linalool, geraniol and terpineol are found.

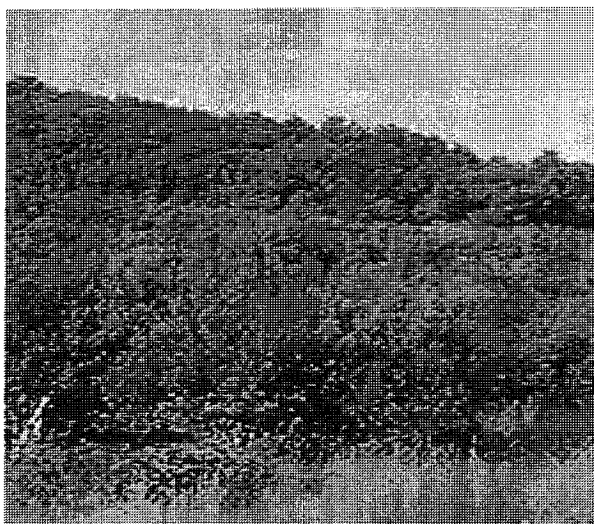
## ATTACHMENT 2

# DETAILED INFORMATION ON TURKISH BAY LEAVES INCLUDING PRODUCTION METHODS

### Origin

Probably Asia Minor. Today, the laurel tree grows all over the Mediterranean. Turkey is one of the main exporters.

Because of its poor resistance to freezes, laurel cannot be grown outdoors in more Northern regions (except some fortunate parts of Britain, I have been told). Contrary to some other originally Mediterranean plants, the common cultivation in medieval monasteries has not lead to more hardy breeds (see also lovage).



Bay garden in Turkey

[www.ardorg.com](http://www.ardorg.com)

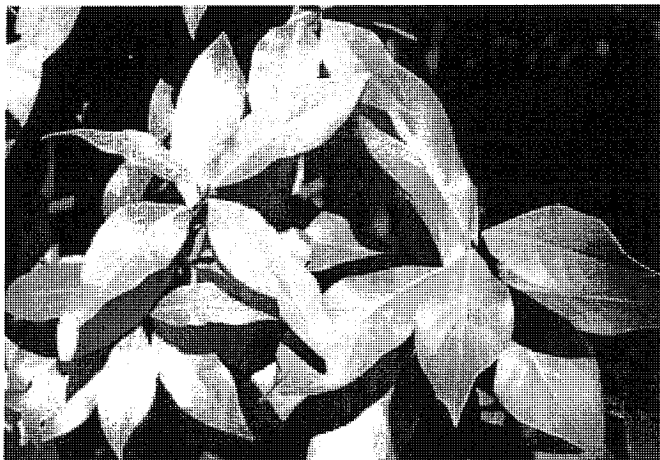


Sterile twig of bay

## ATTACHMENT 2

# DETAILED INFORMATION ON TURKISH BAY LEAVES INCLUDING PRODUCTION METHODS

Today, bay leaves are a rather common flavouring in all Western countries; they are used for soups, stews, sauces, pickles (see dill for herbal vinegar) and sausages; several fish dishes profit greatly from bay leaves. In contrast to the majority of leave spices, bay leaves can be cooked for prolonged time without much loss of aroma. Fresh or dried bay leaves frequently show up in *bouquet garni* (see parsley).



A close laurel relative from the Azores, *L. azorica*

Fresh bay leaves are very strongly aromatic, but also quite bitter; by an appropriate drying procedure, bitterness is significantly reduced, and the flavour can even improve (cf. gale leaves, which resemble bay leaves in several aspects). After manual plucking and sorting, the leaves are quickly dried without exposure to sunlight. High-quality bay leaves are easily recognized not only by their strong aroma, but also by their bright green colour. A rule of thumb holds: The greener the colour, the better the quality. Bay leaves cannot, however, be stored as long as their tough texture might suggest, but should not be kept more than one year after plucking. Overaged leaves have lost their fragrance, show a brownish hue and taste mostly bitter.

Because of the popularity of bay leaves in the West, many exotic leaf spices are commonly known as "bay leaves", though not botanically nor culinarily related. In Asia, the Indian bay leaf comes from a relative of cinnamon native to the Himalayas, and Indonesian bay leaves stem from a tree of the myrtle family. There are more "bay leaves" in the Western hemisphere: The highly aromatic "Californian bay leaves" (*Umbellularia californica*) native to the Western USA are rarely traded because of potential health hazard. Also the so-called "Mexican bay leaves" (*Litsea glaucescens*) have little commercial value. The case is different with the "West Indian bay leaves" which stem from a close relative of allspice (*Pimenta racemosa*, also known as *bay rum*) and yield the West-Indian bay oil. According to some sources, the leaves of the allspice tree are also named "West-Indian bay leaves" when used culinarily.

Some more spices have similar culinary value than bay leaves, and adventurous cooks might want to try them. Boldo leaves, distantly related to laurel, have a strong flavour resembling regular bay leaves, but significantly stronger. Lastly, gale leaves are an old-fashioned European spice that can be used as an unusual alternative to bay leaves in many dishes, although it has no botanic relation to laurel.

