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PETITION for MURRAYA KOENIGII to be added to §205.606

Item A

Non-Organic agricultural substance allowed in or on processed products labeled as "organic", §205.606

Item B

1. Leaves of the Curry Leaf Tree, *Murraya Koenigii*
2. A) Organic grower:

Beck Grove La Vigne Organics, PO Box 2890 Fallbrook, CA 92088, tel. 760-723-9997

On the page <http://apps.ams.usda.gov/nop> the entries Curry Leaf and Murraya koenigii produce not results:

The screenshot shows the USDA Agricultural Marketing Service (AMS) website. The header includes the USDA logo and the text "United States Department of Agriculture Agricultural Marketing Service USDA ORGANIC". Below the header is a navigation menu with links for Home, About AMS, Online Forms, Help, and Contact Us. The main content area features a search form titled "NOP Certified Operations" with fields for Ref#, Certifying Agent, Operations, Certificate No., Primary Scope, Secondary Scope, State (set to CA), Country, and Products Produced (set to murraya koenigii). Below the search form is a table with the following columns: Ref#, Certifying Agent, Operations, Certificate No., Primary Scope, Secondary Scope, State, Country, and Products Produced. The table is currently empty, and the status below it reads "No records to view". A disclaimer at the bottom of the search area states: "Disclaimer: Information contained in this database reflects operations that were certified to the National Organic Program regulations, during the 2010 certification year. Some of the data related to the operations listed could be out of date. For more up-to-date information concerning certified organic operations that are listed in this database, the certifying agent associated with the operation may be contacted." At the very bottom of the page are links for AMS Home, Site Map, Rulemaking, USDA gov, FOIA, Accessibility Statement, Privacy Policy, Non-Discrimination Statement, Information Quality, USA.gov, and White House.

This screenshot is identical to the one above, showing the same USDA website interface. The only difference is that the "Products Produced" search field now contains the text "curry leaf". The search results table remains empty, and the status below it still reads "No records to view". All other elements, including the header, navigation menu, disclaimer, and footer links, are the same as in the previous screenshot.

B) nonOrganic growers:

Thye Chuan Tropical Products, Daniel Loo, 36 Block-B MK-12 Sungai Nibong Kecil 11900 Penang, Malaysia, tel. +60 464 51 162

Mr. Raj Ganapat Impex, plot no 20, jeevan nagar, ponmeni jai nagar, Madurai tamil nadu, 625010 India tel. +91 4523 026027

Mr. K. Balaji Vasenth, 3-44/1, Sapthagiri Bhavan, Jkk Dhana Lakhmi Natraja Nagar, Valayakarnur, Komarapalayam, Tamil Nadu, India, 638183 India, tel. +91 4288 262773

Mr. Ayub Bhanu, 9th Gayakwadi Corner, Bhistiwad, Rajkot, Gujarat, 360001 India, tel. +91 281 2444940

Mr. Govinda Swamy, No-B 537 CHPT Colony, Chennai, Tamil Nadu, 600081 India, tel. +91 4425 916384

3. Substance will be used as an ingredient for curry sauce, flavoring agent
4. Curry leaves are used to enhance the authentic flavor of Indian curries, they are impossible to substitute
5. Curry leaves grow on small trees. The leaves are harvested, washed with water and cut into small pieces with a blender.
6. Not available
7. Not available
8. Not available
9. Chemical interactions
 - a. N/A
 - b. N/A
 - c. N/A
 - d. N/A
 - e. N/A
10. Not available
11. *Chemical in curry leaves can cure prostate cancer*

Curry leaves do not just satiate taste buds. Scientists have discovered a new aspect to the leaves; the possibility of curing prostate cancer. Researchers from Santiniketan-based Visva-Bharati University, Kolkata's Indian Institute of Chemical Biology and Georgetown University Medical Center in Washington DC, have isolated mahanine—a plant derived carbazole alkaloid from curry leaves—which has caused mass death of prostate cancer cells through apoptosis, a type of controlled cell death mechanism.

"Mahanine did not cause death of liver cells, heart or skeletal muscle cells, indicating that this alkaloid selectively kills prostate cancer cells," says Samir Bhattacharya, the lead researcher. "Mahanine promises a new chemotherapeutic option for prostate cancer treatment," says Bikas C Paul, a co-researcher. The findings of the study were published in the journal *The Prostate* (Vol 66, No 12).

The research team exposed Incap and pc3, two types of cultured human prostate cancer cells to mahanine—extracted and purified from curry leaves. The cancer cells were treated with 1 mg/ml, 2 mg/ml and 3 mg/ml mahanine for 1, 2 and 3 days. And by 72 hours, at 2 mg/ml dose, mahanine reduced the viability of both types of cancer cells by 50 per cent. At 3 mg/ml dose, mahanine destroyed almost all the cancer cells within 48 hours.

Studying the effects of mahanine on pc3 cancer cells, the team found that mahanine inhibited the activity of akt—a protein that fuels the growth of prostate cancer cells. It also blocked the generation of Bcl-xL—a type of protein that helps cancer cells' survive. "At 60 hours, mahanine completely abolished Bcl-xL," says Bhattacharya. Reduction in the levels of Bcl-xL releases cytochrome c, a protein of mitochondria. Cytochrome c activates caspase, an enzyme that further accelerates the death of cancer cells without damaging any neighboring healthy cells.

Prostate cancer has been found to be one of the ten leading male cancer cases in India. According to

population-based cancer registry, prostate cancer is on the rise in cities like Pune, Delhi, Chennai, Bangalore and Kolkata. In the US, prostate cancer is the second leading cause of death in men.
Date: 30/12/2006

IMPORTANT: the curry trees are under quarantine even though the insect is named citrus psyllid, it affects curry trees as well

What is the Asian Citrus Psyllid?

The Asian Citrus Psyllid is an **aphid-like insect** that feeds on the leaves and stems of citrus trees and other citrus-like plants – but the real danger lies in that it can be a carrier of a deadly, bacterial tree disease called **Huanglongbing (HLB)**, also known as **Citrus Greening Disease**.

Where has the insect been found?

The disease-carrying Asian Citrus Psyllid has already caused devastation in Asia, India, parts of the Middle East, and South and Central America. Now the psyllid has been found in Mexico, Hawaii, Texas, Louisiana, Georgia, Alabama, South Carolina, Florida and – most recently – southern California.

In June 2008, the psyllid was spotted dangerously close to California – right across the international border in Tijuana, Mexico. Only a few months later, it was detected in San Diego and Imperial counties. The Asian Citrus Psyllid has also been intercepted coming into California in packages of fruit and plants, including citrus, ornamentals, herbs and bouquets of cut flowers, shipped from other states and countries.



Yellow sticky cards can be hung in or around citrus trees to capture flying adult psyllids. This is an important way to monitor for the presence of the insect.

What is being done to stop the insect?

The California Department of Food and Agriculture has issued a state interior quarantine in areas where the psyllid has been found, and is applying treatments to control the infestation. County agricultural commissioners, CDFA and USDA, along with industry groups such as the Citrus Research Board, are working together on increased surveying and trapping. Additionally, the California Citrus Research Board is setting up new diagnostic laboratories at several locations in the state to enable mass testing of psyllids and plant material for the disease.

Inspection of cargo at international ports, state lines, airports and mail-sorting facilities has been ramped up to intercept the insect. But don't forget that consumers play a critical role in helping protect our state from the psyllid and HLB. Live plants or plant parts should never be transported from other states, and people should **inspect their citrus trees often**.



Floral bouquets containing psyllid-infested orange jasmine have been intercepted coming into California from Mexico.

How could the Asian Citrus Psyllid further spread in our state?

The Asian Citrus Psyllid could spread throughout the state by the transportation of infested plants or plant parts. To curb this, a **quarantine has been implemented**.

The disease-carrying Asian Citrus Psyllid could spread throughout the state on citrus plants and close relatives of citrus – such as orange jasmine or Indian curry leaves – that arrive in airplanes, ships, trucks, cars or mail. Distribution of orange jasmine plants by retail nurseries was the main method of movement of the Asian Citrus Psyllid throughout Florida. Floral bouquets containing psyllid-infested orange jasmine have been intercepted coming into California from Mexico.

Additionally, the psyllid could fly northward from southern California and gradually spread throughout the state

>>>> there is a way we can use the curry leaves: the California Department of Food & Agriculture inspector comes to the Beck Grove facility in Fallbrook CA, inspects the washed and frozen leaves and signs them off. Then they are sent, packed with dry ice to the production facility in Fresno, CA.

Our goal is to be able to use Organic as well as non-Organic curry leaves grown here in California where the inspection of the leaves is assured and the quality of the leaves is not disputable.

12. G. Inclusion of a Non-Organically produced agricultural substance onto the National List, §205.606

- The curry leaf is an important flavoring for Indian curries and cannot be substituted
- I searched online all over the globe and I found several growers in India and Malaysia. None of them Organic.
- **(1)** Murraya Koenigii grows in abundance in the southern tip of India
- **(2)**
 - i. I have found 1 grower in Southern California. They have 5 trees which produce about 15 pounds annually. My needed quantity is 50 times that amount
 - ii. I have not been able to find another grower that has an organic certification that is accepted by the USDA (NOP)
 - iii. There is not a big demand for organic or non organic curry leaves in the US, therefore not much supply.
 - iv. Several growers in southern India, but their farm sizes are unknown. For addresses see 2.
- **(3)** N/A
- **(4)** N/A
- **(5)** N/A

Thank you, Michael Buechi

CEO / Founder

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