

# Chile Pepper Institute

## NEWSLETTER

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### SILING LABUYO

by Paul Bosland

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The Chile Pepper Institute's annual rare and unusual seed packet this year is "Siling Labuyo." In the Philippines, chile pepper leaves (*dahon ng sili*) have long been valued as a leafy vegetable, and used as an ingredient in soups and stews. The most prized and esteemed variety is the landrace Siling Labuyo. "Siling" means chile pepper and "Labuyo" means wild or undomesticated so the name translates to "wild chile pepper." In the past, one could find Siling Labuyo growing in most Filipino backyard gardens, but today they are difficult to find.

Your seed packet is the real thing!

Siling Labuyo belongs to *Capsicum frutescens* species, the same as Tabasco and Melagueta. It can be grown as a perennial in areas without frost. It has small, tapering fruits, often 2 to 3, at a node. The fruit heat level is in the range of 80,000-100,000 Scoville heat units.

One of my greatest joys with the Chile Pepper Institute at New Mexico State University is the teaching and training of graduate students. Many of my graduate students have been international, and I have

had students from South America, Central America, Europe, Africa, and Asia. One of my students, Dr. Tito Alcantara, who is now the lead tomato breeder at BHN Seeds in Florida, was an international student from the Philippines. Each Thanksgiving at my house, my wife and I host a "Hot Luck" Thanksgiving dinner, and each student brings a favorite dish from their homeland to share with the guests. Tito introduced us to "Chicken Tinola," a famous chicken soup that is flavored with chile pepper leaves in the Philippines.

A few years ago, I asked Tito if he would send me a seed sample of the true Siling Labuyo. He was very accommodating, and obliged me by sending seed of Siling Labuyo that had been collected in his relative's backyard. After making a seed increase in New Mexico, the Chile Pepper Institute can now share the seed with you. Remember when growing the "Siling Labuyo" to harvest the leaves, do not use pesticides.

Chicken tinola is a simple dish that needs only five ingredients: chicken, green



Map of the Philippines, courtesy freeonlinesmaps.com

**Cont.**

papaya (if that's difficult to find, chayote squash is also a good substitute), Siling Labuyo leaves, ginger, and fish sauce. The ingredient that makes chicken tinola a chicken tinola is the Siling Labuyo leaves. A food recipe site with delicious Philippine recipes is the "MyFilipinoRecipes.com." The recipe on the next page is from this website.



*Siling Labuyo in a Philippines market place. Photo courtesy of pbase.com*



*Siling Labuyo is similar to a Tabasco, however the fruit is a dark green in the immature stage. Photo - Chile Pepper Institute (CPI).*

Visit the Chile Pepper Institute Teaching Garden in 2014. This year's theme is All-America Selections Winners. Go to [www.chilepepperinstitute.org/chile\\_pepper\\_institute\\_garden\\_tour.php](http://www.chilepepperinstitute.org/chile_pepper_institute_garden_tour.php)

**Nutrient Composition of Siling Labuyo/100g**

|                    | Leaves: Raw | Leaves: Boiled | Spinach (for comparison) |
|--------------------|-------------|----------------|--------------------------|
| Energy Kcal        | 54          | 33             | 23                       |
| Protein (g)        | 5.7         | 5.0            | 2.86                     |
| Fat (g)            | 1.4         | 0.9            | 0.39                     |
| Carbohydrate (g)   | 4.7         | 1.2            | 3.6                      |
| Calcium (mg)       | 245         | 181            | 99                       |
| Iron (mg)          | 4.1         | 5.8            | 2.7                      |
| Beta-carotene (ug) | 11,165      | 8,745          | 5,626                    |
| Vitamin A (RE-u)   | 1,861       | 1,458          | *                        |
| Vitamin A (RAE-g)  | 930         | 729            | 469                      |
| Riboflavin (mg)    | 0.24        | 0.22           | 0.189                    |
| Niacin (mg)        | 1.3         | 1.2            | 0.72                     |
| Ascorbic acid (mg) | 25.0        | 5.0            | *                        |

\*= no data

*Information from Community Food System Data, McGill University, Montreal, Canada*

## Recipe: Chicken Tinola

### Ingredients:

2 tablespoons vegetable oil  
 1 whole chicken; cut into serving pieces  
 4 cloves garlic; minced  
 1 onion; chopped  
 2 tablespoons ginger, chopped  
 1 green papaya or small chayote squash, peeled and cubed  
 1 1/2 cups Siling Labuyo leaves  
 4 cups of water  
 2 teaspoons fish sauce



### Chicken Tinola Cooking Instructions:

In a stock pot, heat oil and sauté garlic, onion and ginger. When onion becomes translucent, add the chicken. Sauté until chicken becomes light brown in color, then season with fish sauce. Sauté for 3-5 minutes or until chicken absorbs the flavor of the mixture. Add the green papaya pieces and water. Bring to a boil and simmer for about 20-30 minutes or until chicken is tender and papaya is soft, but NOT over cooked. Add Siling Labuyo leaves; turn off the heat. The chile pepper leaves give that distinctive green grassy herbaeous aroma that is the smell of "tinola." Serve steaming hot with plain rice.

## 2014 Development Leadership Council Update

The Chile Pepper Institute's (CPI) Development Leadership Council (DLC) annual dinner was held in February to recognize the contributions of our council members. Evening discussions included the presentation of beautiful Nambe inscribed gifts and the announcement that **\$633,550** had been raised toward the \$1 million Chile Pepper Institute Endowed Chair. Fundraising dollars came from CPI sales, individual and professional memberships, and large DLC members sustaining contributions.

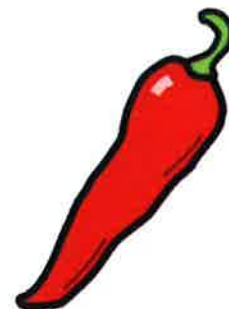
By supporting this fund raising goal, these heralded DLC members, CaJohn's Firey Foods, Biad Chili, and Mrs. Renfros, Cervantes Enterprises Inc., Pucker Butt Pepper Co., and Bueno Foods are building a permanent legacy that ensures New Mexico State University chile pepper research continues in perpetuity. With the vitality and leadership an Endowed Chair brings, the entire chile pepper industry and its many benefactors will reap the rewards of continued variety development, improved disease tolerance, and heightened public interest and awareness.

The DLC members are the CPI's highest-level

group. They are a dynamic, well-positioned group of chile pepper industry leaders whose primary efforts focus on providing the leadership for major CPI Institute goals. In exchange, DLC members receive a tremendous amount of media attention for their CPI products, specialized meetings with CPI faculty and staff, CPI website company profiles, and worldwide company referrals.

The CPI was founded in 1992 by Dr. Paul Bosland with the goal of "educating the world about chile peppers." The Chile Pepper Institute has become the world-wide source for accurate chile pepper science. By creating a permanent chile pepper research endowment, the CPI can ensure the education and research of chile peppers continues.

Direct contributions to the Endowed Chair can be made by calling 575-646-5787 or by emailing Terra Van Winter at: [twinter@nmsu.edu](mailto:twinter@nmsu.edu).





# 'NuMex Easter Wins as an All-America Selection

All-America Selection (AAS) is an independent, non-profit organization that tests new varieties and then introduces only the best garden performers as AAS winners. Independent AAS judges determine the AAS winners by judging and scoring the entries. The judges score each entry from 0 to 5 points, with 5 being the highest. Judges report their scores after the growing season for an entry. Judges are located in geographically diverse areas all over the U.S. and Canada. AAS uses an independent accounting firm to calculate the average score of each entry. Only the entry with the highest average score is considered for a possible AAS award. The AAS judges determine which, if any, new, never-before-sold entries have proven superior qualities to be introduced as AAS winners.

Judges look for significantly improved qualities such as earliness to bloom or harvest, disease or pest tolerance, novel colors or flavors, novel flower forms, total yield, length of flowering or harvest and overall performance. In the last ten years an entry needs to



*'NuMex Easter' displaying pastel colored pods. Photo - CPI*



*'NuMex Easter' has a dwarf, compact plant habit making it desirable for landscape accent plants or potted plants. Photo - CPI*

have at least two significantly improved qualities to be considered by judges for an AAS award.

'NuMex Easter' is a semi-dwarf ornamental chile pepper variety that produces clusters of small, bullet shaped, pastel colored pods that ripen from lavender to pale yellow and mature to orange when the pods begin to dry. The colors of the peppers resemble Easter eggs. 'NuMex Easter' was chosen to compete against hundreds of other ornamental type plants for the garden for its unique plant habit and pod color transition.

AAS winners offer gardeners reliable new varieties that have proven their superior garden performance in trial gardens across North America, thus, their tagline of "Tested Nationally and Proven Locally®". When you purchase an AAS winner, you know that it has been put through its paces by an

independent, neutral trialing organization and has been judged by experts in their field. The AAS winner label is the greatest stamp of approval.

See 'NuMex Easter' on the AAS website at: <http://www.all-americaelections.org/winners/details.cfm?WinID=572>

Purchase seeds at: [http://www.chilepepperinstitute.org/cart/seeds/nmsu\\_varieties](http://www.chilepepperinstitute.org/cart/seeds/nmsu_varieties)

### The Chile Pepper Institute's Development Leadership Council

The Development Leadership Council is a dynamic group of chile pepper industry leaders. Their purpose - to raise \$1 million to fund an Endowed Chair and \$15 million to build the new energy efficient Chile Pepper Institute, featuring a tourist venue for a sustainable teaching and demonstration garden/greenhouse to continue the legacy of NMSU's chile pepper research.

Leadership Council members provide:

- A yearly sustaining donation of \$2,500;
- Facilitation of corporate sponsorships;
- Recommendations of industry colleagues who have the financial capacity to support the Institute's adventures; and
- Encouragement of chile pepper aficionados to become Chile Pepper Institute members.

Interested in joining the Council? Contact Wendy Hamilton [whamilton@nmsu.edu](mailto:whamilton@nmsu.edu), 575-646-5284 or Terra Winter [twinter@nmsu.edu](mailto:twinter@nmsu.edu), 575-646-5787

## The 2014 New Mexico Chile Conference - By Stephanie Walker

Over 200 growers, producers and processors attended the 2014 New Mexico Chile Conference full day program on Tuesday, February 4th. The program got under way with Tracey Carrillo, Assistant Director of Campus Farm Operations providing the welcome. Dino Cervantes provided a New Mexico Chile Association update and James Ditmore spoke on behalf of the New Mexico Chile Commission. Both Dino and James thanked the growers and the industry for their ongoing support of critical chile research efforts, and stressed the importance of continued assistance. George Boyhan, Extension Vegetable Specialist at the University of Georgia was this year's guest speaker and spoke on using the Vidalia Onion Industry as a model for the New Mexico Chile Industry. The Vidalia onion growers have experienced great success and profit from their famous product, but it was critical for the industry to maintain a uniform front and to guard the brand from rouge producers who sought to abuse the system to make a quick buck.

David Dubois, NMSU State Climatologist provided an update on drought. While forecasts indicate that challenges will continue in New Mexico, Colorado has a good chance of experiencing normal precipitation in the coming year and New Mexico will certainly appreciate Colorado's water runoff. Robert Flynn, agronomy specialist, gave a talk on chile crop nutrition and determining plant status based on chile leaf analysis as well as soil nutrient content.

One of the morning's most buzzed about presentations, Landrace Chiles of New Mexico, was provided by Charles Havlik, NMSU graduate student in the Plant and Environmental Sciences Department (PES). Charles discussed the historical significance and importance of these chile accessions to New Mexico, as well as some of his research findings. While 'Chimayo' is the most well-known landrace chile, many families and communities in northern New Mexico claim their own lines of chile that have been passed down for hundreds of years.

The afternoon session consisted of disease and pest updates. Soum Sanogo, NMSU plant pathology specialist provided a talk on disease management strategies, particularly potential bio-control options for critical disease challenges including *Phytophthora* and *Verticillium* diseases in New Mexico. Rachel Rudolph, NMSU graduate student gave a presentation on bio-fumigants of brassica cover crops. Her research indicated that 'Caliente 199' and 'Pacific Gold' mustards provided the highest biomass



The 2014 New Mexico Chile Conference team. Photo- CPI.

of the cover crops she tested in southern New Mexico. Although broccoli ('Arcadia') grew more slowly and didn't produce as much biomass as the mustard cultivars, it was determined in greenhouse assays to be a non-host of root knot nematodes, and could have great potential in managing this persistent pest in chile fields. Carol Sutherland, NMSU Extension Entomologist discussed insect pests of chile pepper and requested assistance in keeping a look out for the

emerging pests, potato psyllids and chile thrips. Kulbhushan Grover, sustainable production expert, gave a presentation on cover crops for use in chile in New Mexico, and cited *Sesbania* as a promising legume option that can benefit soil through nitrogen fixation. Rebecca Creamer NMSU virologist provided an update on chile viral diseases in New Mexico. Based on her predictive model correlating fall rainfall patterns and beet leafhopper populations, recent data suggests that 2014 will likely be a mild year for curly top disease in southern New Mexico. The afternoon closed with the Agriculture Experiment Station sponsored graduate student research poster session. James Fulton, graduate student in the PES department won the award for the best poster. James will receive a \$1,500 stipend to travel to a scientific conference of his choosing and present his research poster.

The Chile Conference committee received a lot of positive feedback about the program and speakers and will continue to bring the latest in chile pepper research to the industry. See you February 3, 2015!



# C A P S I C U M N E W S

## Remembering Alton L. Bailey

It is with great sadness that we report the passing of Alton Bailey. Alton Bailey was a key individual in starting the New Mexico Chile Conference and helped to make it the largest grower/processor research conference on chile peppers in the world. Alton Bailey received a master's degree in Agriculture Economics from New Mexico State University and went on to serve as the Department Head of Agriculture Extension Services. Bailey was a commercial farmer growing onions, chile peppers, and lettuce, and was a consultant to farmers throughout the U.S. He assisted Dr. Paul Bosland in co-authoring several guides on growing chile peppers in the early 1990's and was honored as professor emeritus at NMSU. NuMex Bailey Piquin is a machine harvestable piquin type chile pepper variety that is named in his honor



## National Hot and Spicy Food Day

August 19 is now National Hot and Spicy Food Day and is a day dedicated to eating hot and spicy foods, particularly of international origin. The exact origins of National Hot and Spicy Food Day are not known; however, hot and spicy food has been a part of the human diet for more than 6,000 years. Many cultures throughout the world use a variety of chile peppers as staples in their cuisine.

## "New Mexico Chile for Dummies!"

Everything you need to know about New Mexico red and green can be found at:

<http://www.focusnewmexico.com/chile.htm>

Why chile (*Capsicum*) is spelled with an "e" and not an "i", instructions for roasted green or red chile sauce, do green and red come from the same plant, recipes, and much more are included at this site!

## It's Planting Time!

It's time to plant your chile peppers! You can find a large variety of seeds and plants at the following websites:

Chile Pepper Institute:

<http://www.chilepepperinstitute.org/>

Cross Country Nurseries: (they ship plants!)

<http://www.chileplants.com/>

Renee's Garden: <http://www.reneesgarden.com/>

Sandia Seed Company: <http://www.sandiasseed.com/>

Valley Seed Company: <http://valleyseedco.com/>

Internationally:

Nicky's Nursery: <http://www.nickys-nursery.co.uk/>

Victoriana Nursery Gardens:

<http://www.victoriananursery.co.uk/>

## New Mexico Congressman Steve Pearce Visits the Chile Pepper Institute

New Mexico Congressman Steve Pearce recently visited the Chile Pepper Institute. We spent some time showing him around our center for education, talking to him about our efforts, and brainstorming ways to

promote the chile industry.

Although we offered him a sample of our great sauces, it was still a little early in the day

for him to accept our offer.



For the latest, up-to-date, research based news and information on chile peppers follow us on Twitter, Pinterest and like us on Facebook

# BURNING QUESTIONS

Q. I just read an article on grafting chile plants. I would like to try this at home and have set up all the necessary equipment to do it. One of the examples of grafting is grafting a chile plant onto a tomato rootstock. Will this affect the genetics of my plant if the graft is successful? Will my jalapenos taste like tomatoes?



*A grafted chile pepper on a tomato rootstock. Photo - CPI*

A. Grafting can increase plant vigor and production if a strong graft union is made. When a scion is grafted to a rootstock the scion only uses the rootstock for water and nutrient uptake. The rootstock will not affect any genetic characteristic of the scion. Your jalapenos will taste like jalapenos.

Q. I live in Idaho. My New Mexican chile peppers ('NuMex Big Jim') are not as meaty as the 'Anaheims' in cans or even in stores. Is my soil lacking a nutrient? Plants look healthy and bear pods abundantly. Or is the difference just one of climate?



*'NuMex Sandia Select,' is the newest New Mexican type chile pepper developed by NMSU for a thicker wall. Photo - CPI*

A. Climate does play a role in the successful development of New Mexican type chile peppers. 'Anaheims' have been adapted to a certain climate while each of the varieties developed at NMSU have

been adapted to a New Mexico climate. Soil types, fertilizer, and the amount of organic matter in the soil also affect the growth and development of pods. 'Anaheims' have more water content, making them seem "fuller." However this trait also affects the flavor of pods, as more water means less concentrated flavors. Try 'NuMex Heritage 6-4' for a meaty, full-flavored chile pepper cultivar.

Q. What chile peppers are not part of the nightshade family? I've seen conflicting information on the internet, specifically, a couple websites state the following, "The most familiar exceptions to nightshades are the Habanero types (*C. chinense*), Tabasco (*C. frutescens*), and a number of the Asian hot peppers designated *C.*



*A typical Capsicum flower. Photo - CPI*

*frutescens* as well as some of the wild peppers from Mexico like the notorious chiltepins (*C. annum*)." So are all of the above mentioned chile peppers not true nightshades? A. The nightshade family is scientifically referred to as the *Solanaceae* family. The family consists of 98 genera and 2,700 species ranging from herbs to trees. An important genus is *Solanum*, that includes potatoes and tomatoes. Another important genus is *Capsicum*, which includes all hot and sweet chile peppers. *Capsicum chinense*, *C. annum*, *C. frutescens*, *C. baccatum*, and *C. pubescens* are the five domesticated species of chile peppers that absolutely belong to the *Solanaceae* family. There are also numerous wild species of chile peppers that are also *Solanaceae*.