

# Running bamboo (*Phyllostachys* spp.) in Connecticut



Credit: Caryn Rickel



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The Connecticut Agricultural Experiment Station



# Overview

- What is/is not running bamboo?
- Growth habitat (what is running bamboo)
- Attractive bamboo
- Nuisance bamboo
- Current research



# What is not running bamboo?



Japanese bamboo or Japanese knotweed  
*Polygonum cuspidatum*



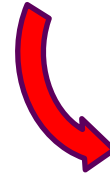
# What is not running bamboo?



Clumping bamboo  
*Fargesia nitida*



# Clump bamboo vs. running bamboo



Source: [kmc.nsw.gov.au](http://kmc.nsw.gov.au)



Spread by rhizomes



# Running bamboos - *Phyllostachys*



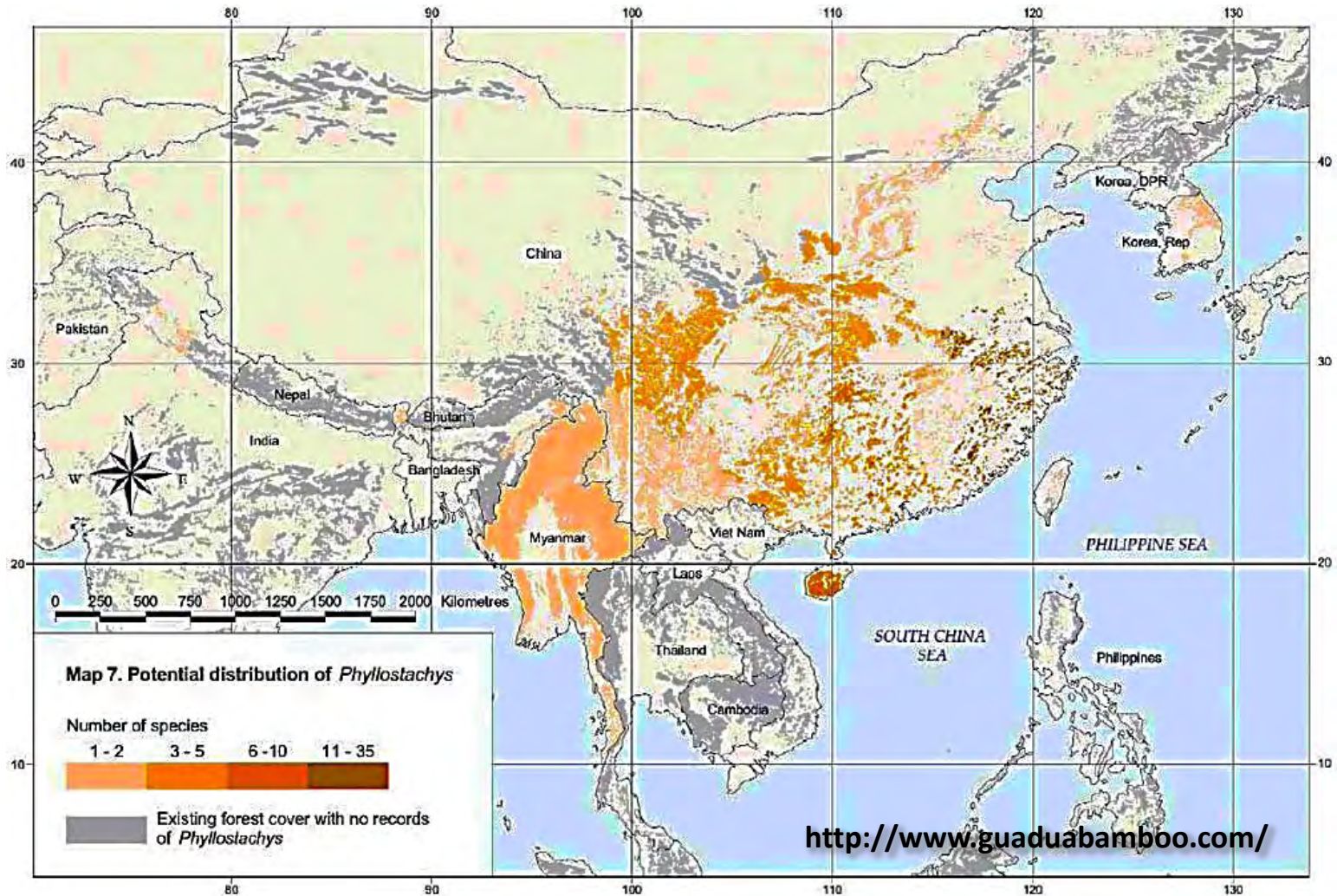
- *Phyllostachys* – upwards of 75 species and 200+ cultivars
- Mature height up to 30 feet (10 meters) tall
- Culm diameter up to of 1.6 inches (4 cm)

# Running bamboos - *Phyllostachys*

- *Phyllostachys atrovaginata* – Incense bamboo (30 ft)
- *Phyllostachys aurea* – Golden fishpole bamboo (35 ft)
- *Phyllostachys aureosulcata* – Yellow groove bamboo (35 ft)
- *Phyllostachys bissetii* – David Bisset bamboo (30 ft)
- *Phyllostachys mannii* ‘Decora’ – Beautiful bamboo (20-25 ft)
- *Phyllostachys glauca* ‘Yunzhu’ (40 ft)
- *Phyllostachys heteroclada* – Water bamboo (30 ft)
- *Phyllostachys incarnata*, *P. Prominens*, *P. propinqua*, *P. edulis*
- *Phyllostachys nigra* – Black bamboo (50 ft)
- *Phyllostachys nuda* – Hardy bamboo (30 ft)
- *Phyllostachys vivax* – Very tall bamboo (70 ft)

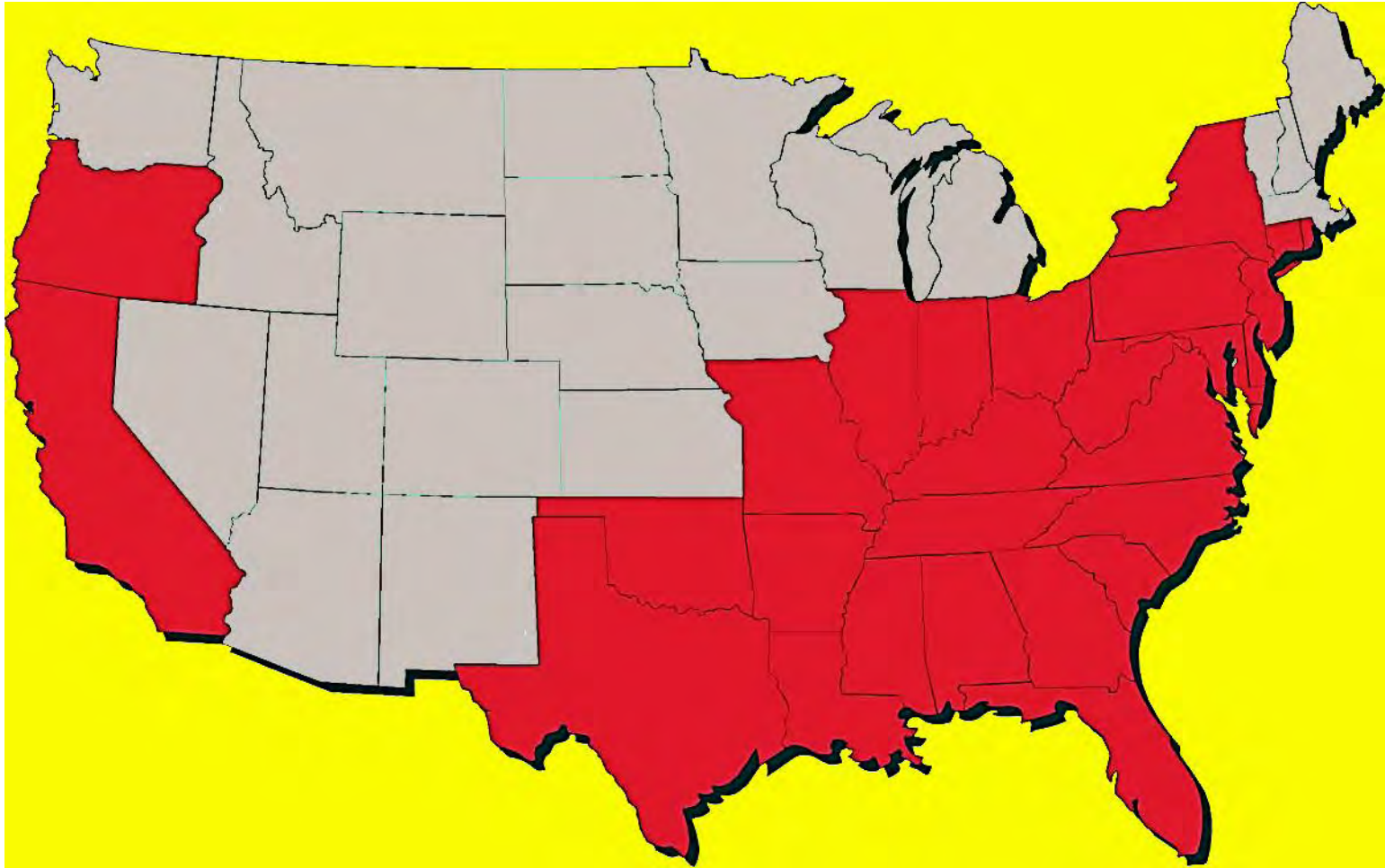


# *Phyllostachys* distribution in Asia





# *Phyllostachys aureosulcata* & *P. aurea*



# Yellow groove bamboo

*Phyllostachys aureosulcata*



Some stems  
can have a  
crook



# Yellow groove bamboo

*Phyllostachys aureosulcata*



Groove in stem

Irregular branch sizes



# Attractive bamboo



Photo credit: lewisbamboo.com

# Attractive bamboo



*Sasa veitchii* (front), *Sasa senanensis* (back)



*Pleioblastus fortunei* Variegatus

# Nuisance bamboo



**Spread by rhizomes**

**Photo credits: Caryn Rickel**

# Bad News

- Major neighbor nuisance where not properly controlled.
- Innocuous clump bamboos could be also targeted by name association.
- If it ever begins to produce viable seeds, could be a problem very similar to Japanese knotweed – just a whole lot taller.



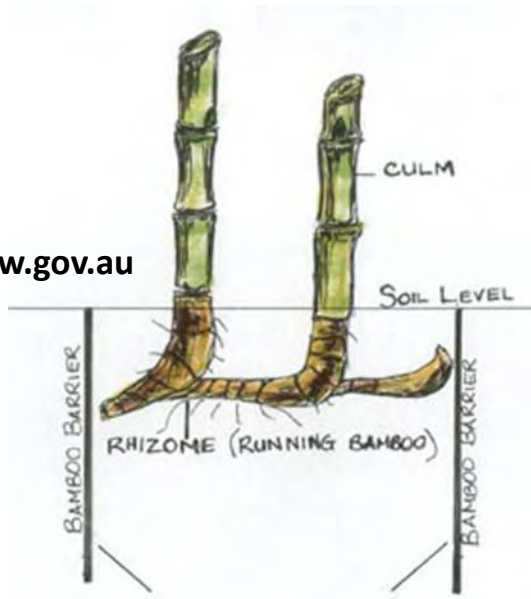
# Good News

- CT appears to be at northern range limit.
- With one possible exception, only spreads the folks moving vegetative tissues.
- In USA since at least 1907, no viable seed production has not been reported.
- Can be killed with herbicides.
- Great biomass potential of up to 4 ton/acre/yr (~1 ton/acre/year for forests).





# Control – Physical barriers



Credit: [kmc.nsw.gov.au](http://kmc.nsw.gov.au)



Credit: [Lewisbamboo.com](http://Lewisbamboo.com)

# Control – physical barriers

## Proper Planting for Running **Bamboo**

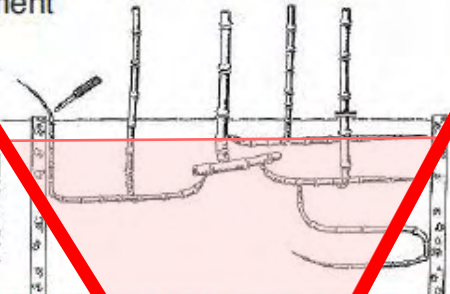
Hardy bamboo can be used as a focal point in the garden, and is valuable as a fast-growing screening plant. However, be aware this plant can spread quite rapidly by underground rhizomes (roots) after it becomes established, and some form of containment may likely be necessary (see reverse side). This is especially true along property lines. Mowing the new shoots is effective in controlling spread. When the bamboo shoots emerge in the spring, they are tender and easily clipped. Herbicides like Roundup® may also be effective in mid to late summer.



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## Rhizome barrier for Running **Bamboo**

You can construct a barrier out of polyethylene, metal, cement, or fiberglass to surround the plant and avoid undesirable spread. The barrier should extend 28"-30" deep into the soil, and extend above the soil at least 2". Polyethylene lasts longest and is most flexible to be freeformed to any desired bed line. Leave a 2" lip above ground to check for any rhizomes (roots) that may try to grow over it. When properly installed, the rhizome barrier provides excellent containment of your bamboo plant.



Seek advice from your local plant professional.



# Control - Herbicides

## Effective

- 1-2 years to control with glyphosate (Roundup<sup>®</sup>)
- diclobenil (Casoron<sup>®</sup>, Barrier<sup>®</sup>)

## Less effective

- fluazifop-p (Fusilade II<sup>®</sup>, Ornamec<sup>®</sup>, or Grass-BGon<sup>®</sup>)
- clethodim (Envoy<sup>®</sup>)



# Our research

- Planted in April 2012 – three locations
- *Phyllostachys aurea* (Golden fishpole bamboo)
- *Phyllostachys aureosulcata* (Yellow groove bamboo)
- *P. aureosulcata* *spectabilis* (Spectacular bamboo)



# Our research

- Growth and spread
- Effectiveness of root barriers and mechanical control
- Herbicide trials in several years



# Listing as invasive

CGS Sec. 22a-381b “In publishing and updating the list of invasive plants required under section 22a-381a, the Invasive Plants Council shall determine that a plant possesses the following characteristics before it is included on such list:”

- 1) The plant is nonindigenous to the state;
- 2) the plant is naturalized or has the potential to become naturalized or occurring without the aid and benefit of cultivation in an area where the plant is nonindigenous;
- 3) under average conditions, the plant has the **biological potential for rapid and widespread dispersion** and establishment in the state or region within the state;
- 4) under average conditions, the plant has the biological potential for excessive dispersion over habitats of varying sizes that are similar or dissimilar to the site of the plant's introduction into the state;
- 5) under average conditions, the plant has the biological potential for existing in high numbers outside of habitats that are intensely managed;
- 6) the plant occurs widely in a region of the state or a particular habitat within the state;
- 7) the plant has numerous individuals within many populations;
- 8) the plant is able to out-compete other species in the same natural plant community; and
- 9) the plant has the potential for rapid growth, **high seed production and dissemination and** establishment in natural plant communities.



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- 3) under average conditions, the plant has the **biological potential for rapid and widespread dispersion** and establishment in the state or region within the state (**no seeds in 100+ years**);

**Bear Hill Road, Woodbury, CT**



**Old Grassy Road, Woodbury, CT**



- 4) under average conditions, the plant has the biological potential for excessive dispersion over habitats of varying sizes that are similar or dissimilar to the site of the plant's introduction into the state (**limited to sunny areas or edge of forest gaps**);
- 5) under average conditions, the plant has the biological potential for existing in high numbers outside of habitats that are intensely managed;
- 6) the plant occurs widely in a region of the state or a particular habitat within the state.



**Route 6,  
Woodbury, CT**

**Curtis House,  
Woodbury, CT**





- 7) the plant has numerous individuals within many populations;
- 8) the plant is able to out-compete other species in the same natural plant community; and
- 9) the plant has the potential for rapid growth, **high seed production and dissemination and establishment in natural plant communities.**



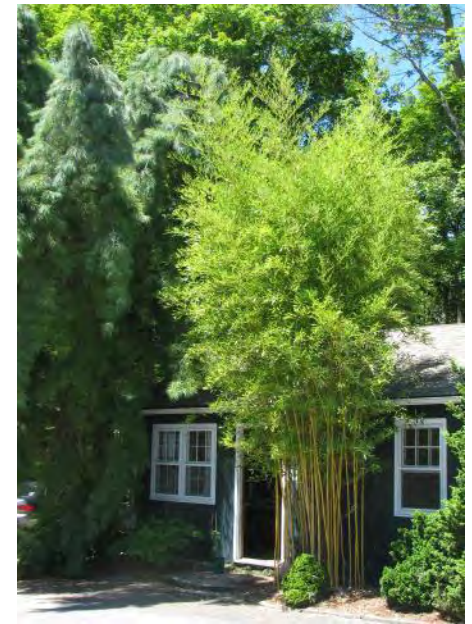
**Bear Hill Road, Woodbury, CT**

**Nonnawaug  
High School,  
Woodbury, CT**



# Running bamboos

- Attractive border or garden accent if controlled with properly installed and maintained root barrier.
- Major nuisance if allowed to spread. Can be controlled, but requires 1+ years with herbicide.



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