



# Saffron production in VT ecosystem

North American Center



For Saffron Research & Development

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# What is Saffron?

The world's most expensive spice: \$3,000 - 9,000/lb

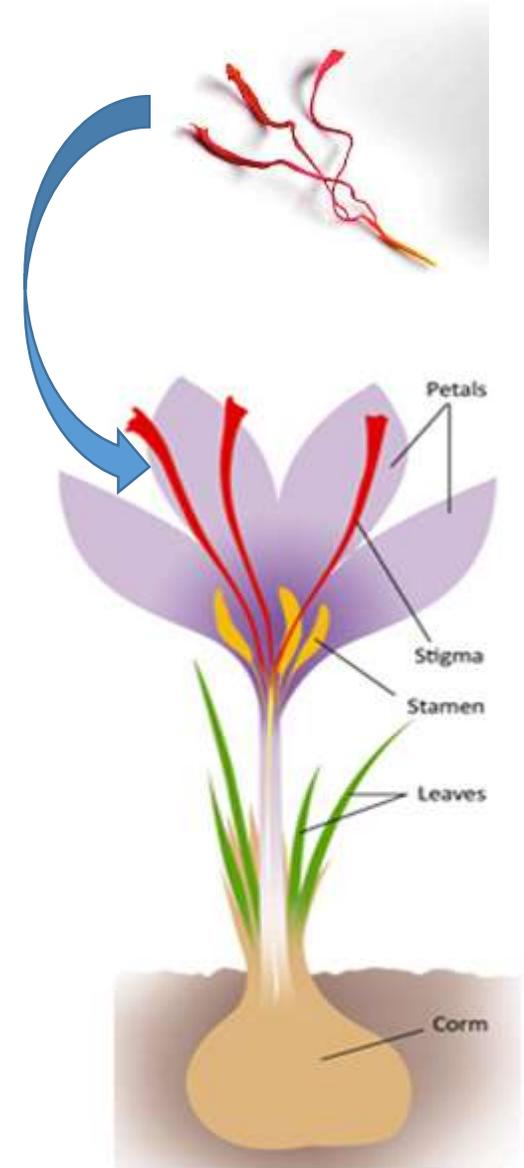
US growers are getting \$25-75/gram (\$11,350-34,000/lb)

Saffron is the dry stigmas of *Crocus sativus* L flowers.

Fall blooming crocus

In cultivation for over 3,500 yr.

Origin: Probably Greece or Crete





# What is Saffron good for?



- ✓ Culinary spice
- ✓ Medicinal herb
- ✓ Medicinal extract
- ✓ Perfume
- ✓ Ornamental plant
- ✓ Fabric dye
- ✓ Liqueur



# Why is Saffron so expensive?

Currently most processing is done by hand

4,000 blooms = 1 oz of saffron, or 28 grams (~\$1,000)



The average saffron yield is about 8 lb/ha (less than 4 lb/acre).

**Phytogeographically, the majority of these species occur within the Mediterranean region extending eastward into the Iran-Turanian region.**



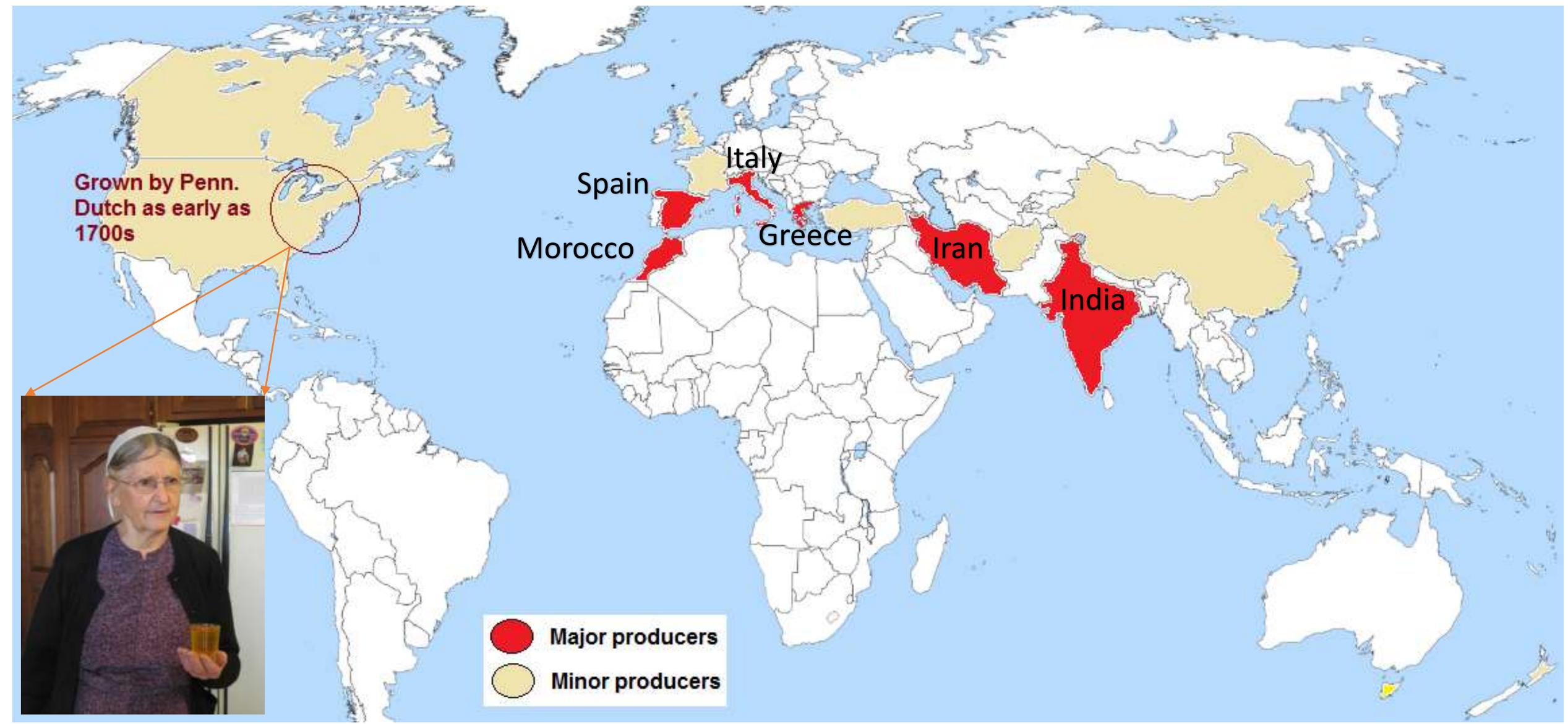
**First Saffron Farm: 3,500 years ago (Mesopotamia)**

**50,000 years old depiction in Iran**

Grown by Penn.  
Dutch as early as  
1700s

Spain  
Morocco  
Italy  
Greece  
Iran  
India

● Major producers  
● Minor producers





**Imported Saffron:**

~23 tons in 2013!

~46 tons in 2016!

~60 tons in 2018!



~??? tons in 2025!

# Saffron Production Cycle



Flowering/  
harvesting/drying  
Oct. – Nov.



Vegetative stage  
Dec. – Mar.



Corm development  
April – June



Dormancy  
July – Aug.



Plant corms  
Aug.



Sprouting  
Sept.

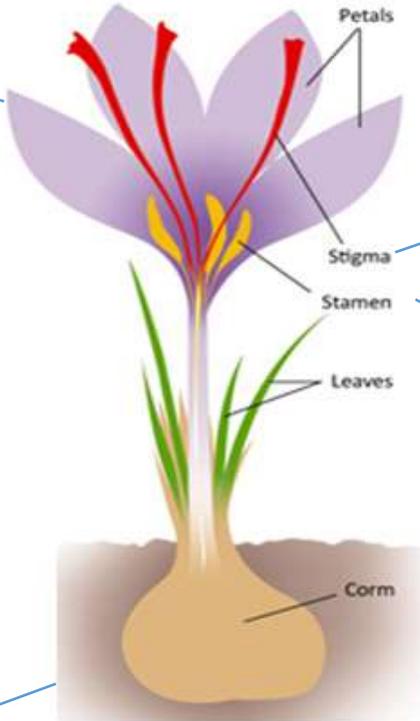


# Products

???



Petals

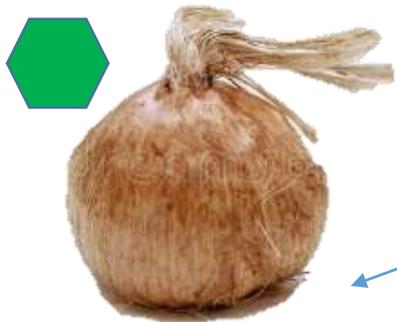


Stigmas



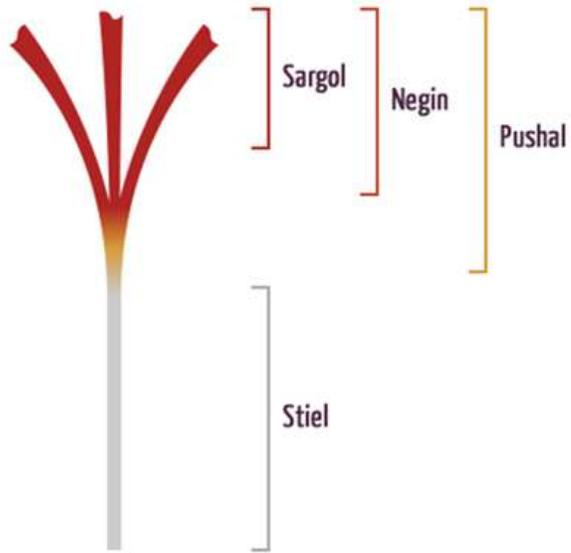
Stamens

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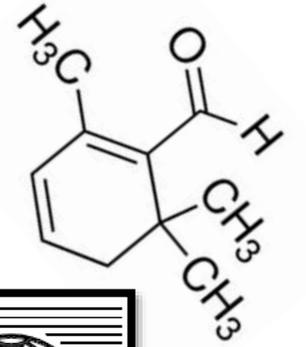


Corms

# Saffron Quality



Crocin: Imparts the color  
Picrocrocin: Imparts the unique flavor  
Safranal: Imparts the aroma



# All that Glitters is NOT Gold!

Saffron is the most frequently adulterated spice in the world.

- “Mexican Saffron” is not the real thing.
- It is safflower (*Carthamus tinctorius*), a frequent filler or fraudulent product.





Thanks for your interest



The North American Center for  
Saffron Research & Development

<http://www.uvm.edu/~saffron/>

**Acknowledgments.** Support for the UVM Saffron Research Project has been provided by the Univ. of VT College of Agriculture & Life Sciences; Peck Electric; Roco Saffron & VT Agency of Agriculture, Specialty Crops Block Grant.

# Saffron at Cobble Creek Nursery

Monkton, VT

Coldhardiness Zone 4b (Av. Min temp: -25 to -20 °F)

Patti and John Padua

Wholesale growers of trees and shrubs

<https://greenworksvermont.org/members/cobble-creek-nursery/>





# Planting

- Purchased and planted 2,500 corms August 2017



# Planting

- Planted two 100-foot long 3 ft wide beds, with a 1.5 ft side aisle between beds
- Beds were slightly raised because soil was a bit heavy
- Planted corms 6 inches deep, 6 inches apart

# Planting

- Mulched with wood chips between the beds, with a 1.5 ft side aisle between beds
- Put netting over the rows for rabbit control in the first year



# Weed Management: Tools of the Trade



# Harvest Time!



- Start mid-October
- End mid-November

- It is best to pick the flowers in the morning
- Best before the flower is totally opened up



# One Day's Harvest

- Don't pile up the flowers too deeply in the basket or tray
- Protect them from the sun



# Post Harvest Handling

The red stigma is what we're after!



- Lots of time sitting and separating
- Stigmas are put on trays lined with parchment paper
- Dried in a food dehydrator



Check out the video at:

<https://www.youtube.com/watch?v=Mw7Opz1hR0s&feature=youtu.be>

# The Fruits of our Labors



We average a yield of 90-100 grams/year

Pure Vermont Grown Saffron!

# Winter Care

- Keep an eye out for moles and voles



# Summer Weed Management



- Covered beds with a porous ground cover to suppress weeds
- Cover beds in mid-June when corms go dormant
- Remove in late-September before corms begin to grow



## Current and Future Directions

- Taking a tip from Arash, we augered the holes for planting this year which made it easier to plant!

# *Golden Thread Farm*

Stowe, Vermont

<https://goldenthreadfarm.com/>

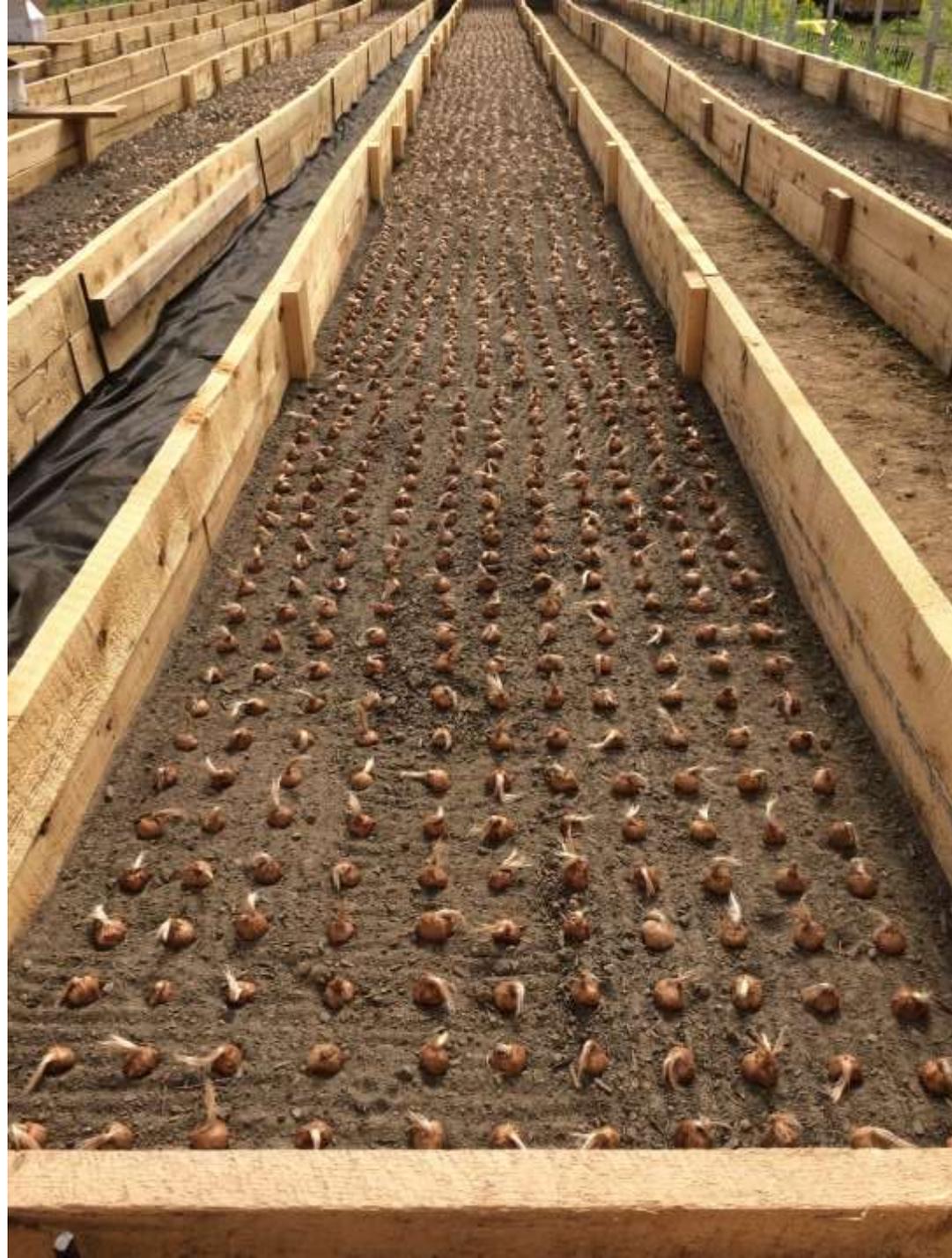






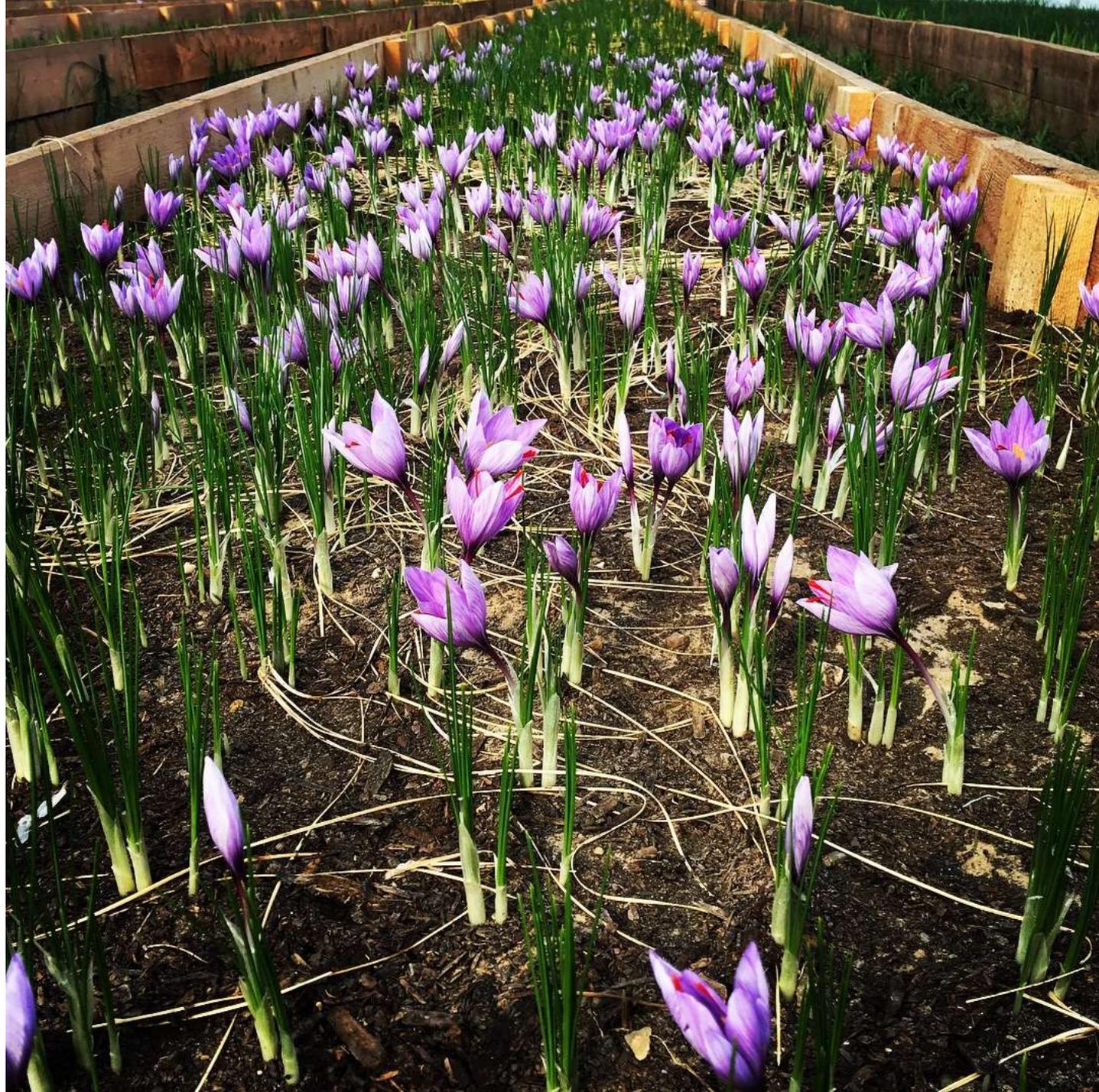






















SAFFRON  
THREAD  
Vermont  
Thread



**Question Time!**