Saffron:

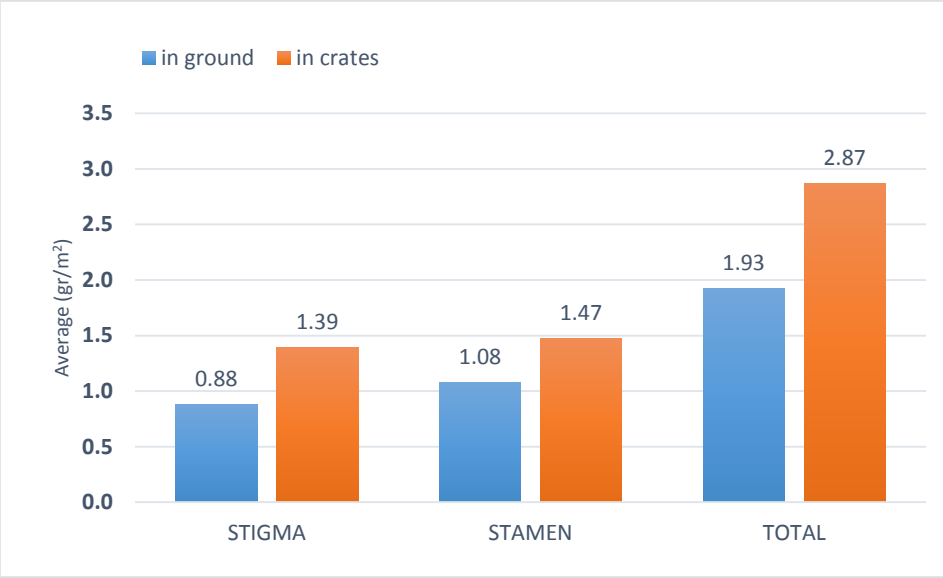
A Golden Opportunity for Crop Diversification

- **Most expensive spice in the world ($5,000/lb), in VT the retail price is $19/0.3 oz.**
- **Used for food flavoring and coloring.**
- **Medicinal properties: anti-carcinogenic, combats depression, reduces cholesterol, and arteriosclerosis.**
- **Corms may contain fungicidal compounds.**
- **Saffron crocus (Crocus sativus) adapted to arid/semi-arid areas, with some resistance to cold (~39°F).**
- **Blooms in fall (Oct. – Nov.), and dormant Mar. - Sept.**
- **Stamens, petals and corms have medicinal and value added potential.**

What are we doing?

- Grown in high tunnel in northern Vermont.
- Two cultivation methods: milk crates and raised beds.
- Corms from PA (Yr. 1) & Holland (Yr. 2) planted in late August.
- Planted at a density of 100 corms per yd^2.
- Bloomed for 4 wk from Oct. – Nov.
- Dried at room temperature and in the oven.

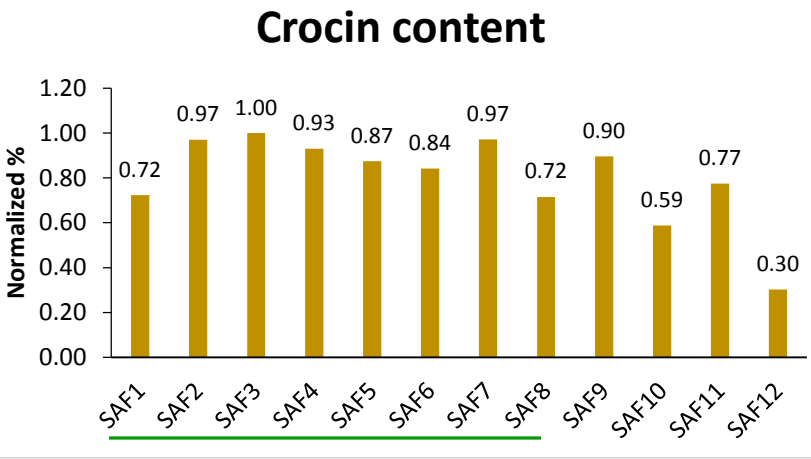
What we found out?

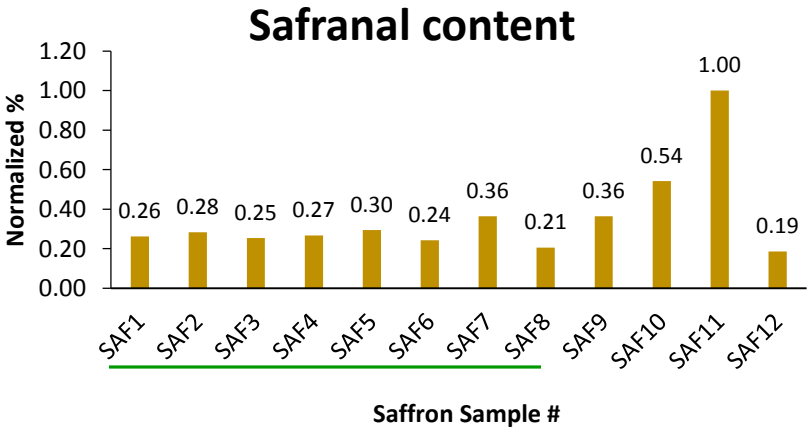


Weight of stigmata and stamens per yd^2

- **Yields of 0.9 – 1.4 g/yd^2.**
- **Significantly higher yield in crates than in the ground.**
- **Higher yields than reported for traditional saffron growing areas, which is 0.34 g/yd^2**
- **Based on our yield, the gross value could be $100,000/acre.**

What we found out?





Harvest location:

VT (SAF1-8), PA (SAF9), Iran (SAF10), Spain (SAF11) and Italy (SAF12).

- Content not significantly different among VT samples collected at different times.
- Content not significantly different among the samples from various locations.

What we found out?

Treatment	# primary corms 2015	# secondary corms in 2016	Average wt/corm 2015	Average wt/corm 2016
In ground	465	407	11.2 grams	10.3 grams
In crates	465	756	11.2 grams	7.7 grams

- ~2 times more corms from crates than raised beds.

  Major factor: rodent feeding and predation in raised beds

- Corms from raised beds 1/3 heavier than those from crates.

  Major factor: soil moisture deficit in crates

Raised beds

Crates

What 's Next?

- **Compile Yr. 2 results**
- **Assess Yr. 2 saffron quality (HPLC)**
- **Host a grower workshop**
- **Evaluate winter survival**
- **Compile temperature data**
- **Determine production costs**
- **Seek funding to repeat the experiment and expand on the scope of treatments**
- **Investigate market potential (US imported 25 tons in 2013!)**

This research was conducted by

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