



Experimenting with Growing Ulluco as a Niche Crop

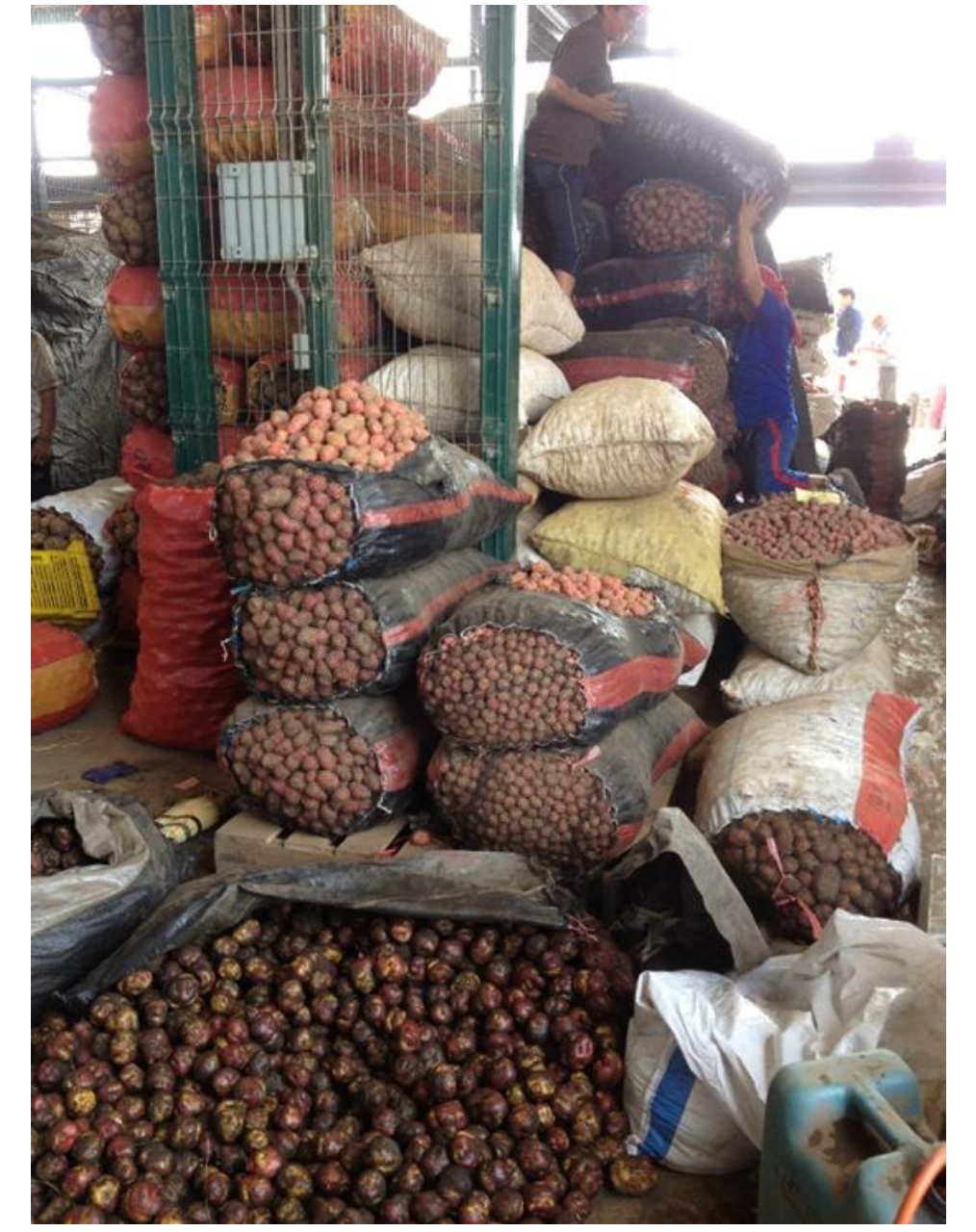
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Ulluco *Ullucus tuberosus*

- Basellaceae family
- Potentially adaptable to temperate marine regions given specific microclimates.
- Tubers are waxy skinned and brightly colored
- Good flavor and sustenance as nutritional staples



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Attributes

- Various yellow, pink, red, purple and even candy-striped. Resemble shiny jewels
- Related to Malabar spinach
- Produces buttery, crisp tubers
- Tastes like nutty-sweet corn
- Remains crunchy when cooked
- Unrelated to potato should not spread diseases if planted in the same field.



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Nutrition

- Good Source of Carbohydrate
- Fresh-85% moisture, 14% starch and sugars, 1-2% protein.
- High in Vitamin C – 23g per 100g
- No fat
- Low fiber
- Edible greens like Malabar spinach, highly nutritious.
 - High in vitamin A and iron, 12 g protein

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Abstract

Ulluco (*Ullucus tuberosus*) has the potential to be farmed as a niche crop in temperate climates outside of the crop's native high-elevation South American range. The brightly colored and delicious tubers have considerable consumer appeal for those who become aware of them and offer an alternative to potato growers. Challenges include photoperiod restrictions, along with sensitivity to summer heat and early fall frosts. Cultivars are only available from limited sources in the United States at this time, and evaluation for specific climatic suitability would be desirable. The sharply-sweet, crispy tubers of oca (*Oxalis tuberosa*) and the spicy elongated tubers of mashua (*Tropaelum tuberosum*) have a history of being intercropped with ulluco. All may be grown in United States maritime regions either as separate crops or together if photoperiod restrictions can be selected with future breeding programs.

Ulluco Challenges

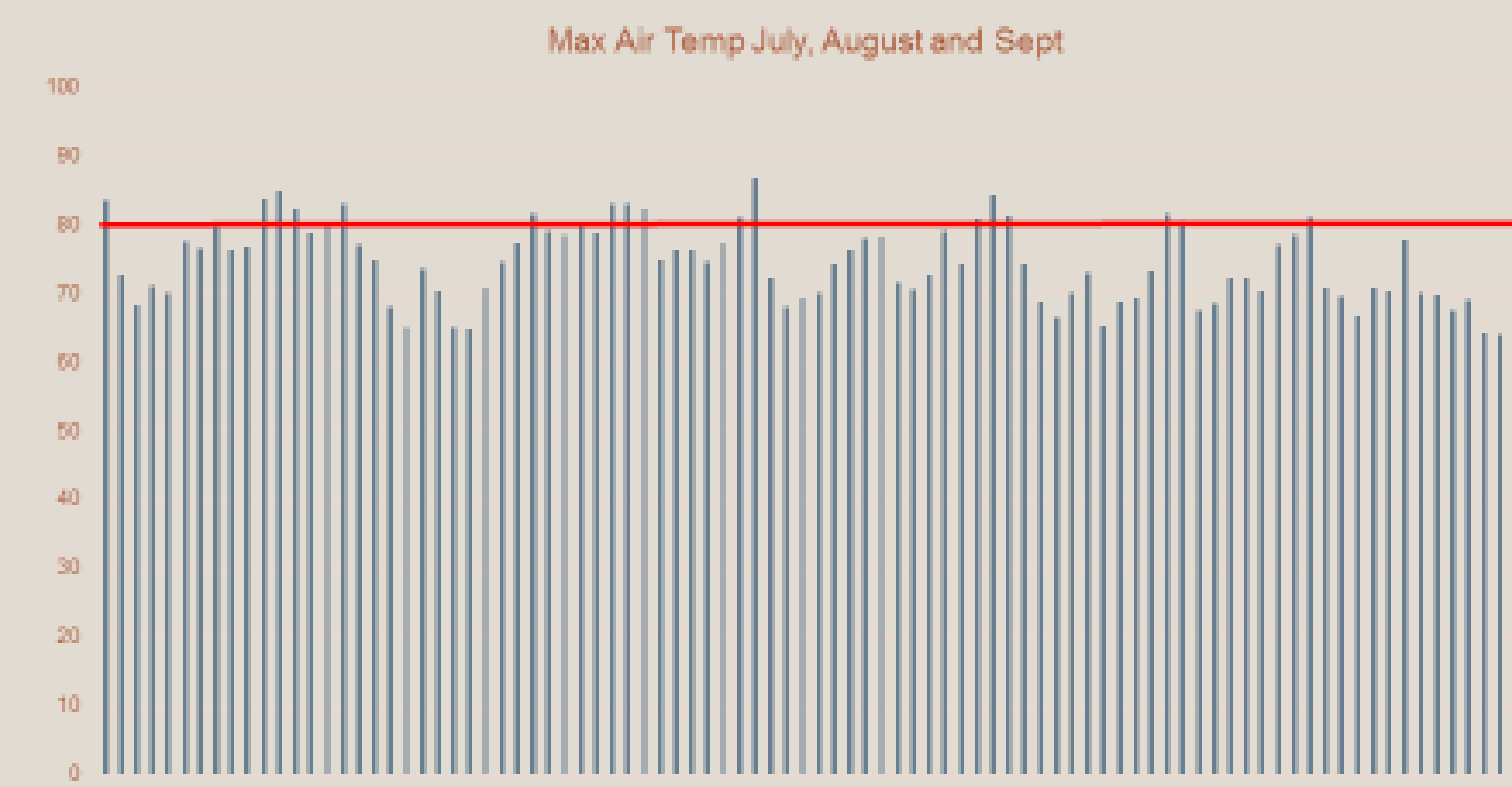
- Reputation as the most difficult of Andean root crops to grow
- Sensitive to heat, drought, frost and pest (rodent, slug and snail) damage.
- Prefers mild temperatures but needs full sun to yield well
- Ulluco can be tainted with viruses that reduce production

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Plant becomes stressed and yellow beyond 80 degrees Fahrenheit

Mount Vernon Weather data 2014



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Summary

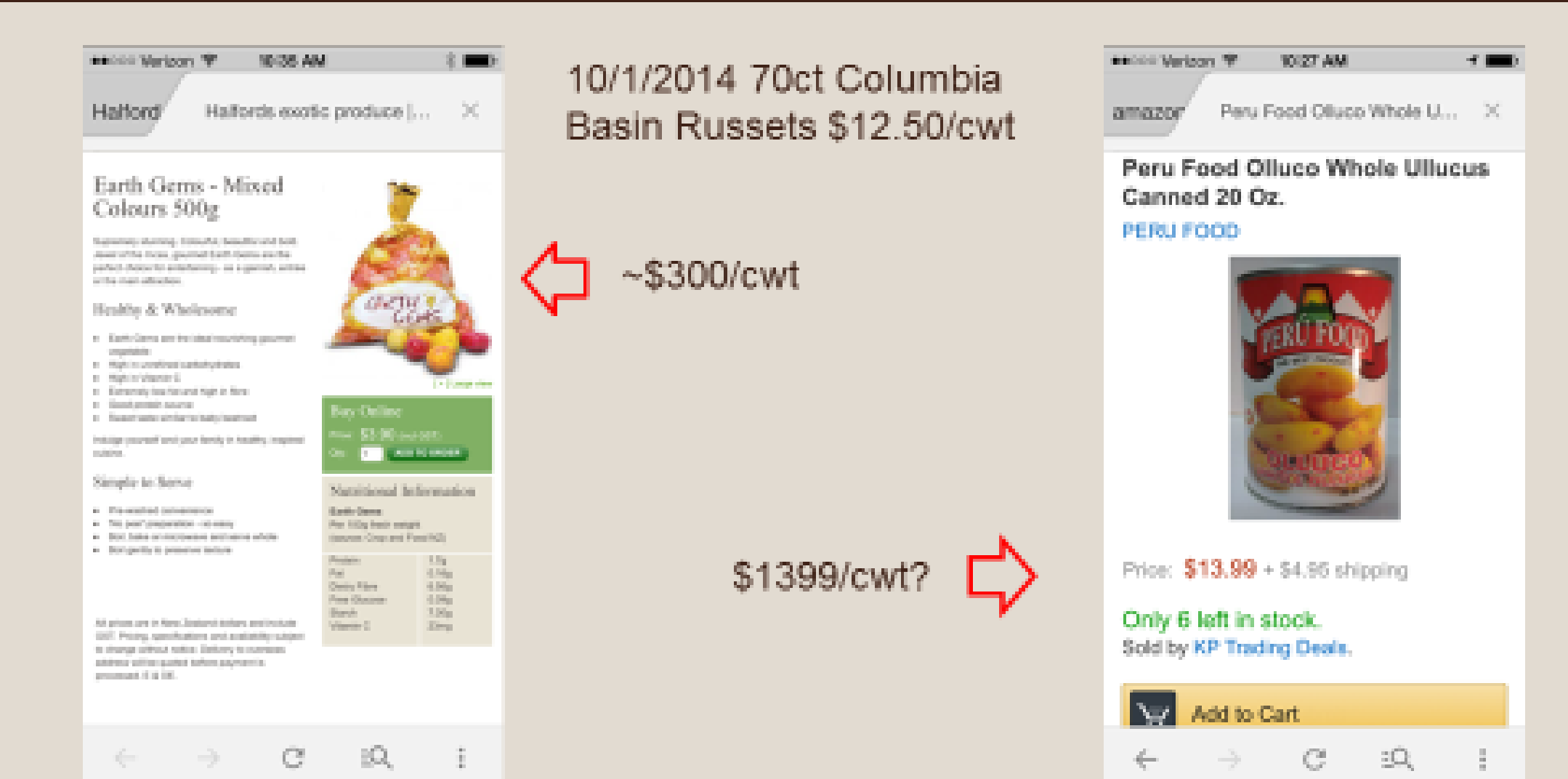
Ulluco is a tasty, desirable crop that has a reputation for being challenging to grow outside of the Andes. As it is a highly-priced seasonal restaurant delicacy, growing ulluco may be worth investigating as a niche crop in protected maritime regions. Along with oca, mashua and yacon, these unique Andean tubers deserve attention from both agricultural researchers and experimental small-scale farmers looking for alternatives to potatoes.

Ulluco Challenges Continued

- In Peru Ulluco's grow in high elevations preferring cool climates with temperatures fluctuating between 40-70 F. Min 32 - Max 80 F
- For good sized eating tubers to develop a minimum of two months growing time after the equinox should be allowed
- Ideally tubers are harvested in late Dec or Jan
- Unlike potatoes ulluco tubers are found scattered through the soil around the whole root system. This feature has discouraged mechanical harvest

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Economic return



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