

A close-up photograph of several light purple potato flowers. The flowers have five petals and prominent yellow stamens. The background is a soft-focus green, likely foliage.

# Growing Potatoes from 'true seed'

Lloyd Sharp - NSW - Mid Blue Mountains Seed Savers - August 2023



# Growing Potatoes from 'true seed'

What is 'true potato seed' (TPS)?

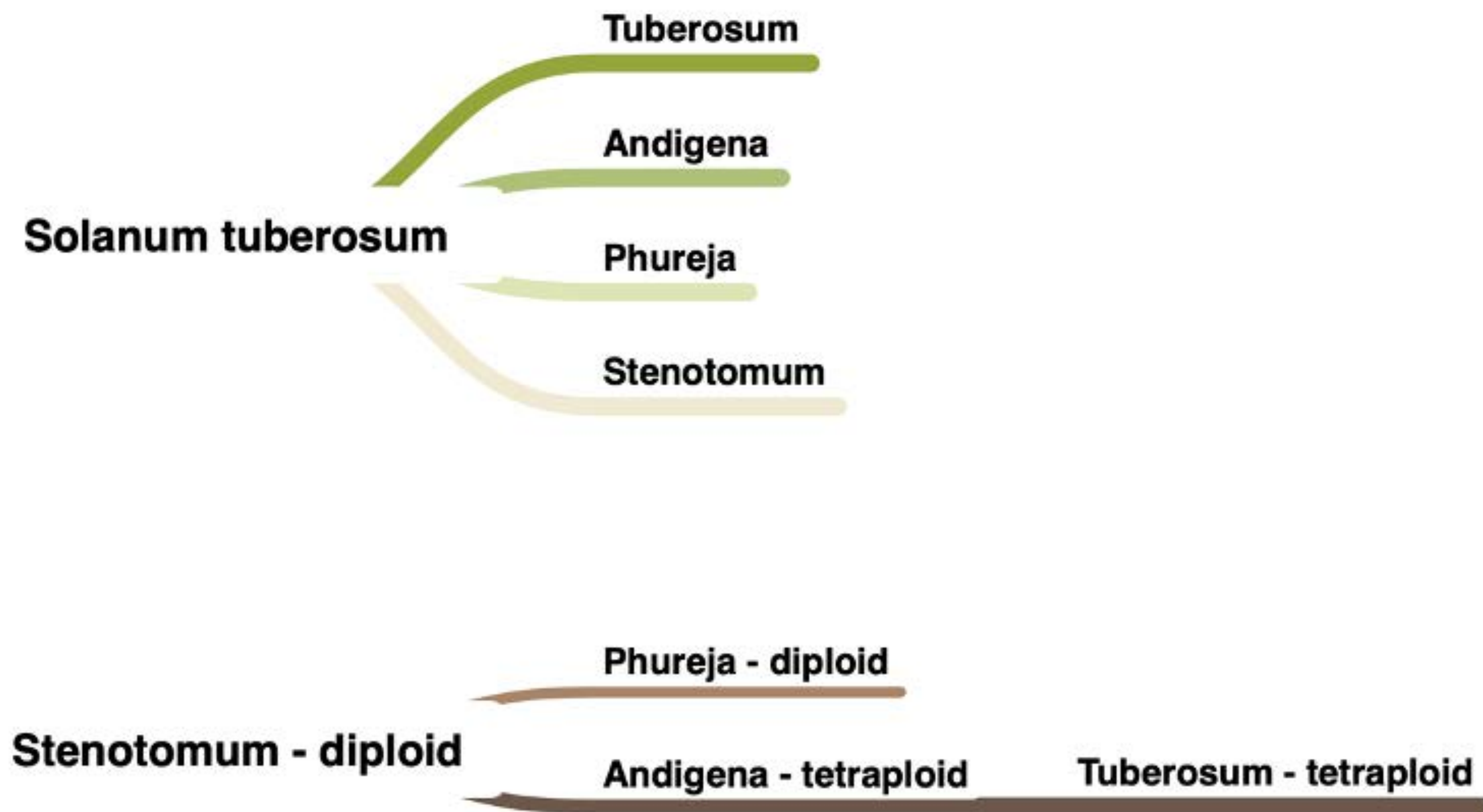


- There are many species
- People have been using seed for potato food production for thousands of years
- Potatoes have been considered entirely 'poisonous' but were often still grown for their attractive flowers and effusive growth
- Most commonly potatoes are grown by cloning vegetatively
  - 'Seed' tubers - effectively vegetative cloning
  - Cuttings including methods such as grafting on to other Solanum such as Tomato
  - Meristem cloning - can be used to help 'clean up' some diseases
- Potatoes have flowers and fruits/berries and many have viable 'true seed'
- They produce tubers in the first growing season from seed
- Day length - sensitive & neutral
- Dormancy - short & long



# Growing Potatoes from 'true seed'

What is 'true potato seed' (TPS)?





# Growing Potatoes from 'true seed'

What is 'true potato seed' (TPS)?



## Easy mode

- Plant a potato
- Wait for flowers to appear
- Pollinate the flowers by either leaving them alone, waiting for insect pollination or manually pollinating them
- Wait for berries to form and ripen
- Harvest the berries
- Process the seed to remove germination inhibitor goo
- Plant seed
- Wait for seeds to germinate





# Strong evidence of King Parrot intrusion into potato harvest

Everyone likes potatoes including marsupials, rodents and even birds.



# Growing Potatoes from 'true seed'

What is 'true potato seed' (TPS)?

Easy mode

Easily grown in the ground or in pots





# Growing Potatoes from 'true seed'

What is 'true potato seed' (TPS)?

## Easy mode

Flowers are perfect and have 5 petals, 5 fused anthers and a single central pistil with five chambers

Flowers are both self pollinating and out crossers. The pollen is available from about 2 days before the pistil is receptive.





1 Jan 2018



16 January 2018



28 January 2018



3 October 2022



13 October 2022



21 October 2022



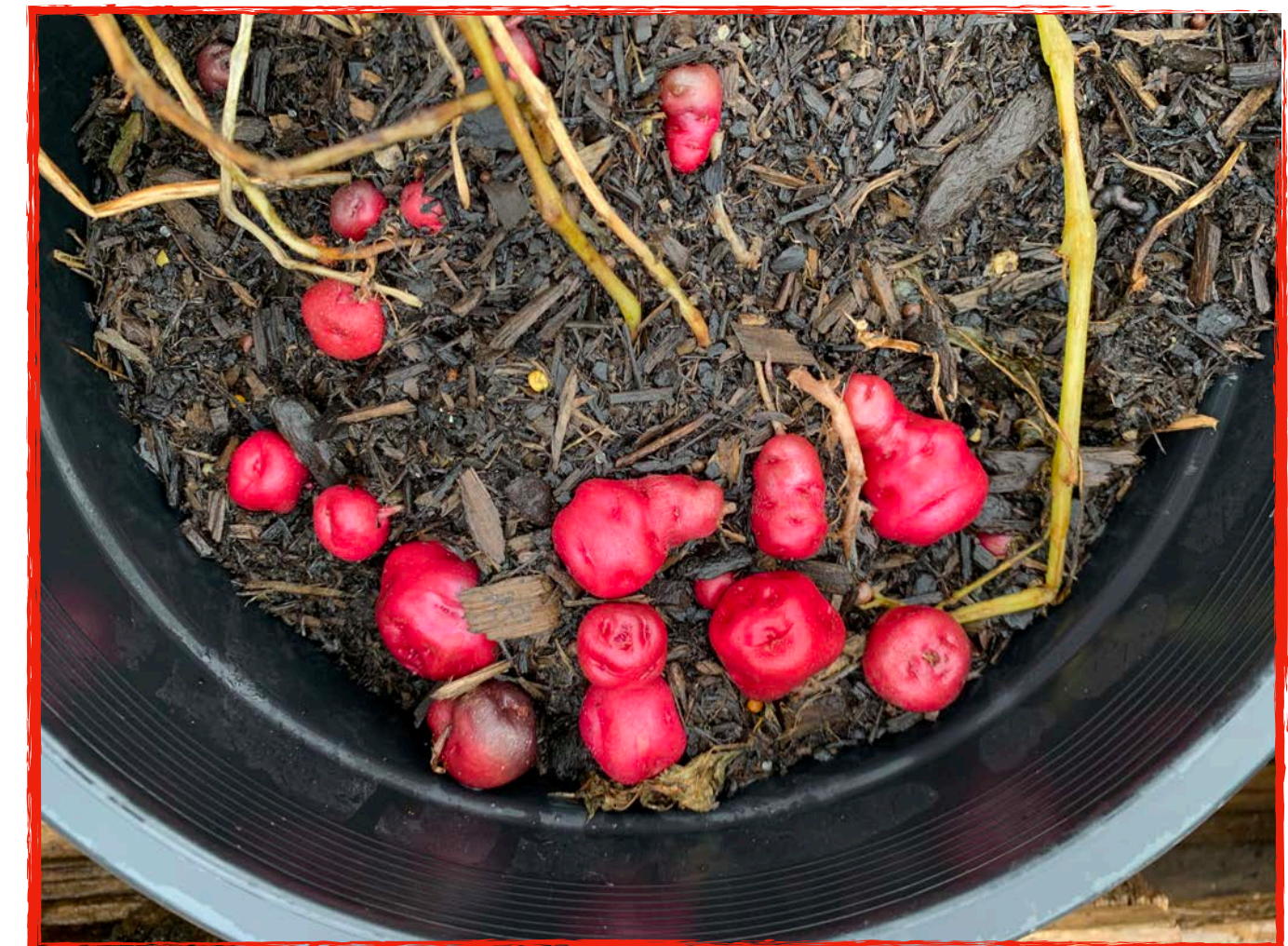
21 October 2022



3 November 2022



10 December 2022





# Growing Potatoes from 'true seed'

What is 'true potato seed' (TPS)?

Easy mode

Processing berries & Seed - Use fermentation like Tomato  
On old berries soak to reconstitute





# Growing Potatoes from 'true seed'

What is 'true potato seed' (TPS)?

## Hard mode

- Trial and error
- Research
- Experiment
- Observe
- Take notes
- Wait

### Genetics



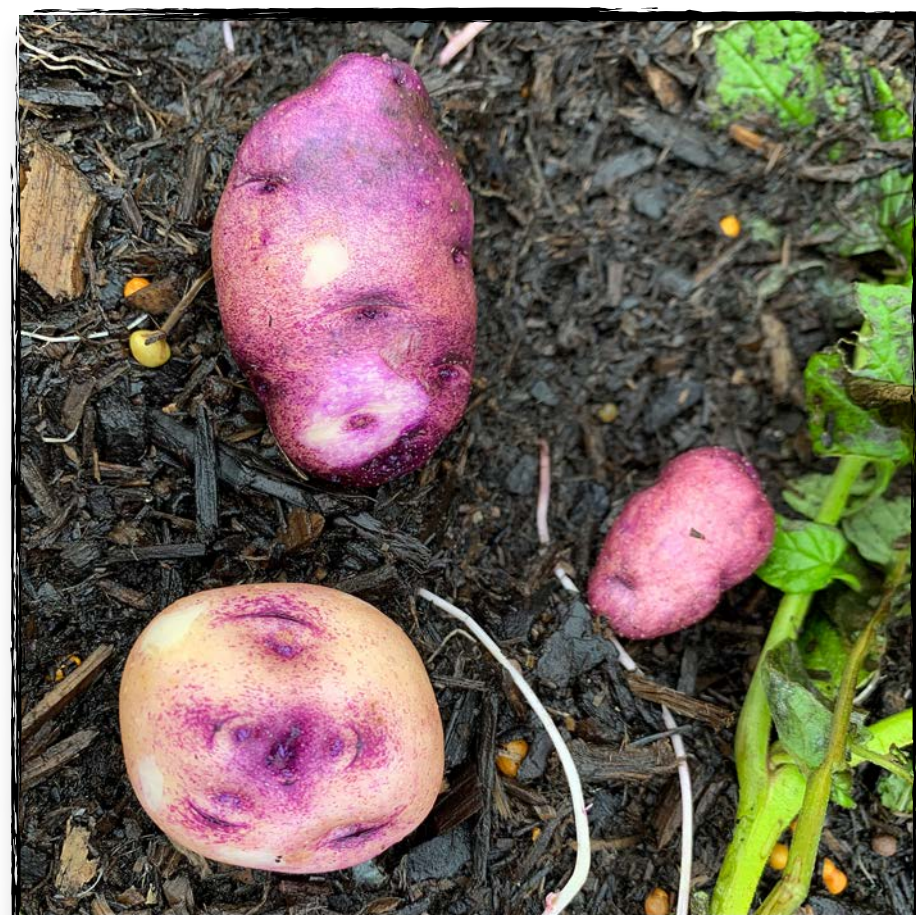
### History



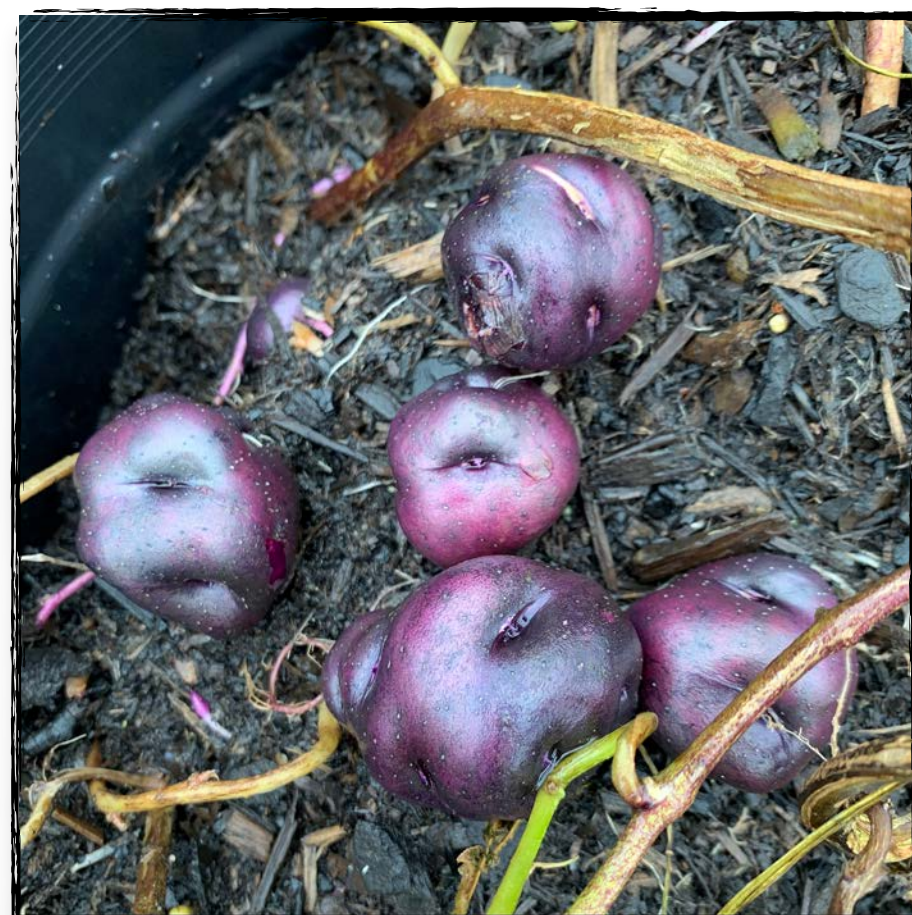


# Growing Potatoes from 'true seed'

Looking at recent harvests - a selection of some current favourites



Velvet Ice



Plum Rumble



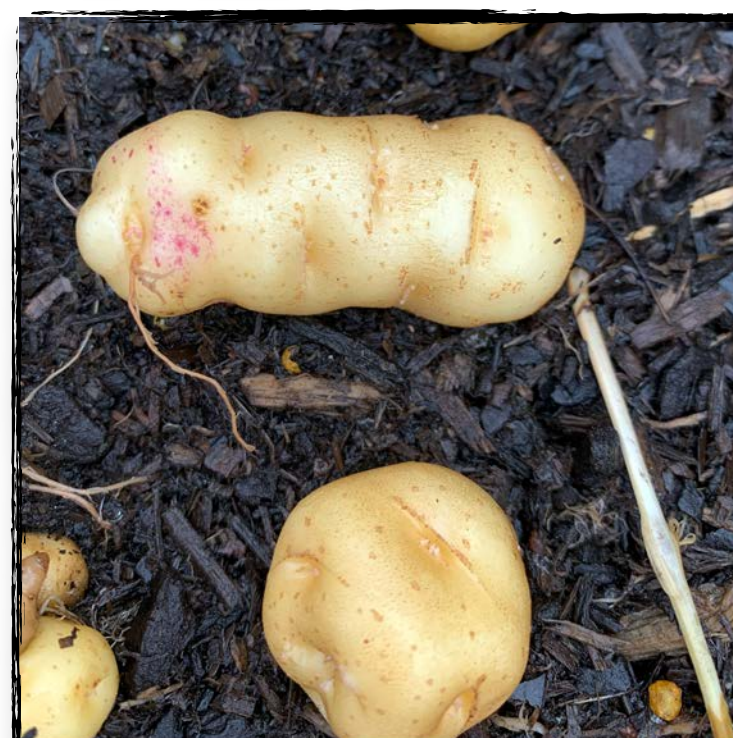
Sunburn



Candy



Orange Blush



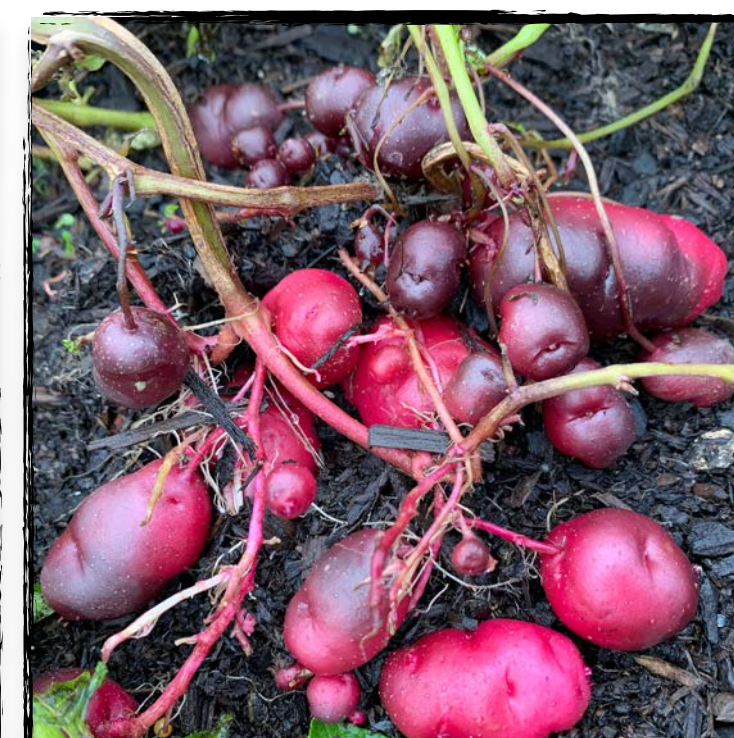
White Red Spot 1.10



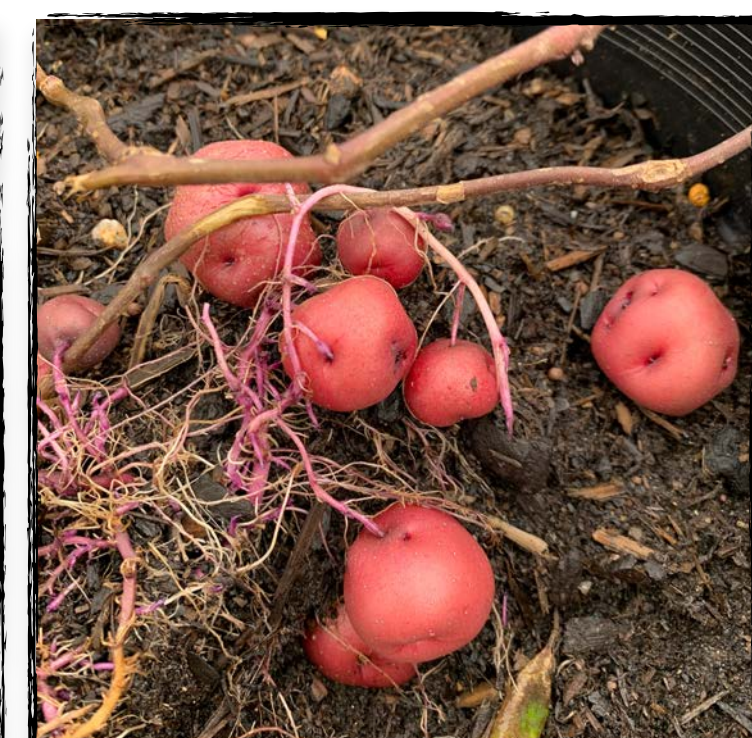
Radish 1.1



Red Torpedo 1.8



Red 1.8



Red Pink 1.3



# Growing Potatoes from 'true seed'

Looking at recent harvests - common but lesser known varieties



Cranberry Red



Russian Banana



Red Burgundy



NZ Red Kidney



Royal Blue



Sapphire



King Edward



# Growing Potatoes from 'true seed'

## Food Security

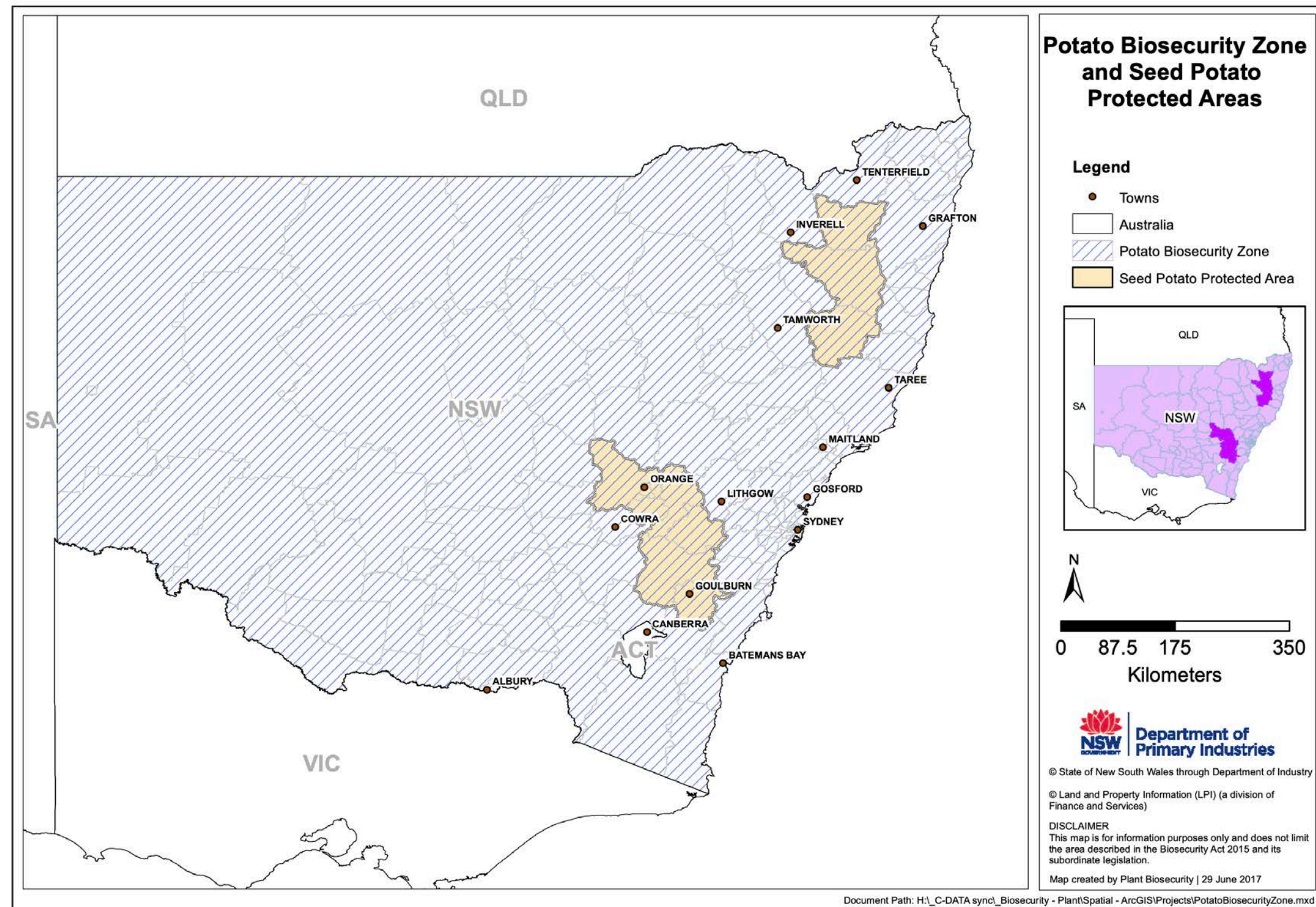
### A quick overview of the biosecurity issues with potatoes.

- Potatoes are one the largest and most important food crops and commodities by volume in the world along with sugar cane, maize, rice, wheat, cattle milk, oil palm, (potatoes sit here) and soya beans.
- There are many viruses, diseases and pests that attack potatoes and reduce harvests and quality.
- Australia has 'mostly' effective quarantine - we don't have some of the worst diseases and pests for potatoes like the potato blights and some viruses, nematodes and bacteria that you read about in Europe and USA etc.
- There are specific requirements in Australia to allow you to sell potatoes as 'seed' tubers
- Viruses and other pests are very common
- TPS removes most problems but some virus, bacteria and fungi can remain
- Be observant and be careful



# Growing Potatoes from 'true seed'

## Food Security



### Australian Federal Farm Bio Security

<https://www.farmbiosecurity.com.au/crops/potatoes/potato-biosecurity-areas/>

### Australian Interstate Quarantine zones

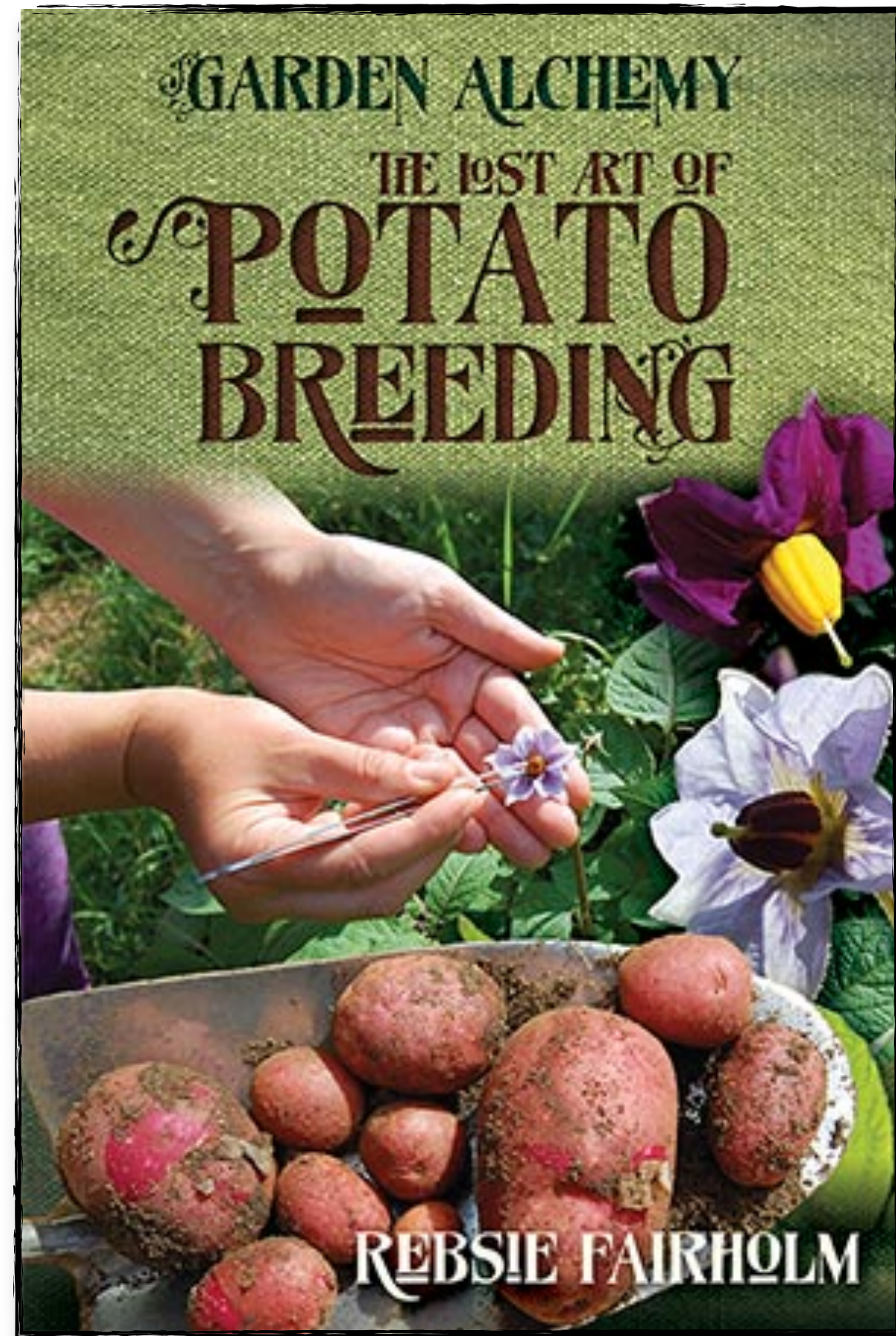
<https://interstatequarantine.org.au/travellers/quarantine-zones/>

- Each Australian state has specific requirements and laws governing growing and farming food and moving it around.
- There are specific potato exclusion zones in some states that are usually where the large crops of potatoes are grown or researched.
- There are some known locations of pests and diseases



# Growing Potatoes from 'true seed'

## Useful potato references



**Rebsie Fairholm**

<http://daughterofthesoil.blogspot.com/search/label/Potatoes>

**The lost art of potato breeding - Rebsie Fairholm**

<https://skylightpress.wordpress.com/2014/01/25/the-lost-art-of-potato-breeding-by-rebsie-fairholm/>

**Cultivariable**

<https://www.cultivariable.com/>

**Lost crops of the Incas**

<https://nap.nationalacademies.org/catalog/1398/lost-crops-of-the-incas-little-known-plants-of-the>

**International Potato Center**

<https://cipotato.org/potato/>

**Kenosha Potato Project**

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

**Carol Deppe**

<https://www.caroldeppe.com/byovv.html>

**Spud Sisters**

<https://spudsisters.com.au/>