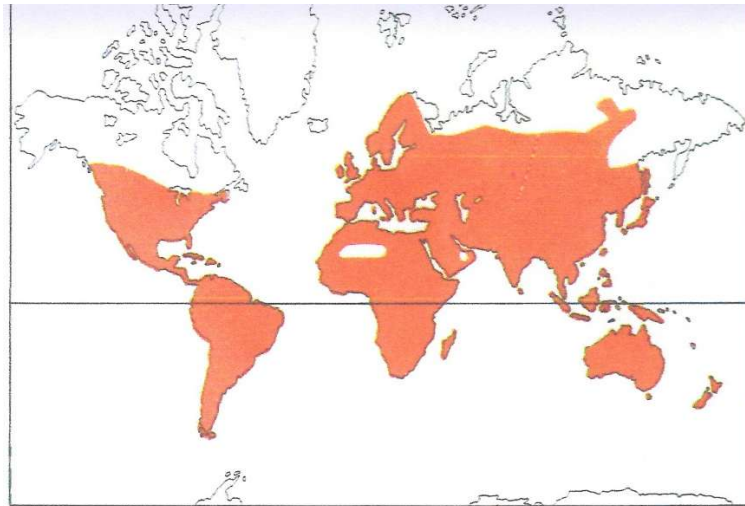


A cluster of stylized leaves in green, orange, and light blue, with detailed vein patterns, positioned on the left side of the slide.

Solanaceae : surprising,
suspicious, and even
sinister aspects of these
plants

A cluster of stylized leaves in orange, light blue, and green, with detailed vein patterns, positioned on the right side of the slide.

Distribution



Number of genera : about 90

Number of species: 2,000–3,000

Distribution: cosmopolitan with centers in Australia, Central and S America.

Economic uses: food plants (potato, aubergine, tomato, peppers), ornamentals, alkaloids used in medicine and tobacco.



Familiar Species

<u>Genus</u>	<u>No. of species</u>	<u>Genus</u>	<u>No. of species</u>
Nicandra	1	Nicotiana	21
Lycum	80 -90	Petunia	40
Atropa	4	Salpiglossis	18
Hyoscyaminus	20	Schizanthus	5
Physalis	100		
Capsicum	50		
Solanum	1700		
Lycopersion	7		
Mandragora	6		
Datura	10		
Solandra	10		
Cestrum	150		



Common edible species

Chillies

Sweet pepper

Paprika

Aubergine

Cape gooseberry

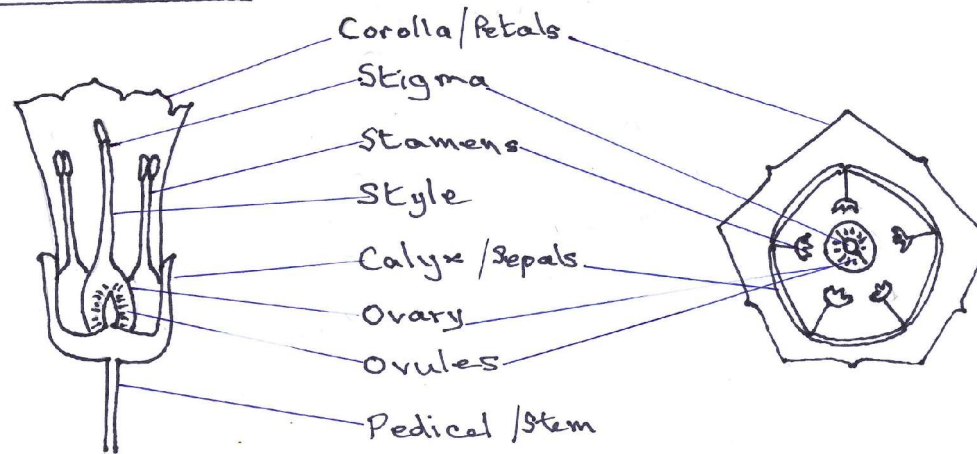
Tomato

Potato

Thorn apple (don't try this at home!)



Flower structure



Petals (often fused into 1 tube/trumpet) 5; Style 1; Stigma 1; Stamens 5; Ovary 1; Ovules many

Medicinal Properties of Alkaloids

- + Pain relief
- + Cardiac stimulants
- + Local anaesthetic
- + Muscle relaxant in surgery
- + Chemotherapeutic agents in some kinds of cancer treatment



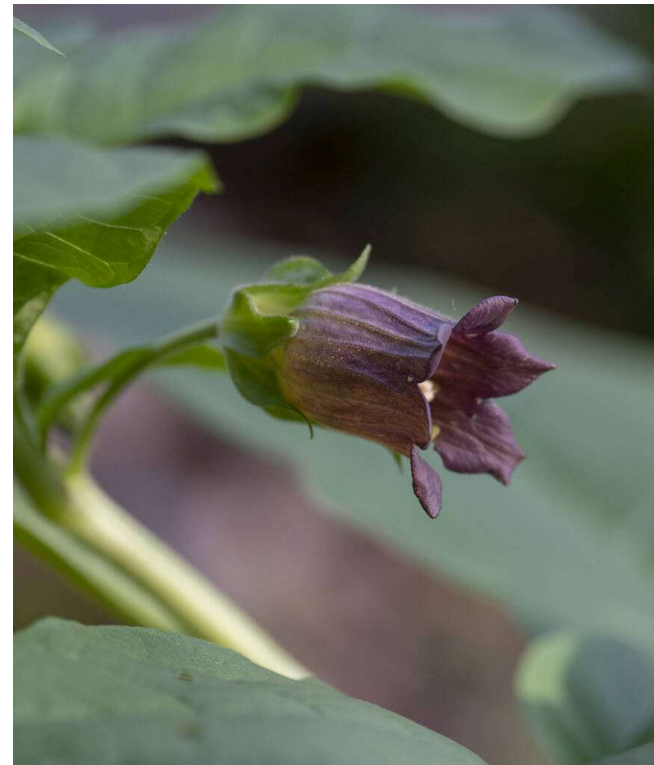
Nightshade Family

Atropa Belladonna

Atropine

Hyocyanine

Scopolomine



Nightshade Family

Solanum dulcamara



Solanum dulcamara

Also called Woody Nightshade or Bitter Sweet contains solamine.

Used in treatment for skin conditions including eczema, psoriasis and scabies, applied as liquid to the skin.

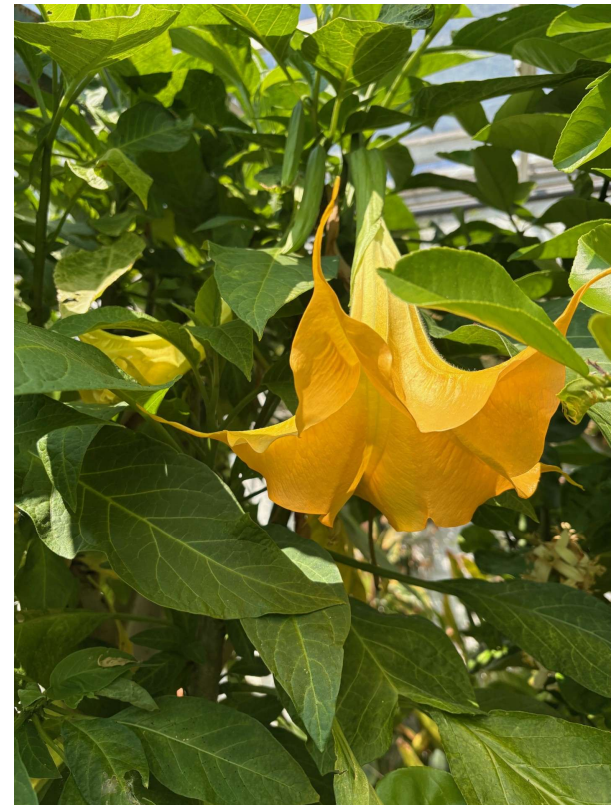
In the Middle Ages the plant was a symbol of fidelity.



John Gerard's herbal 1597

“The juice is good for those that have fallen from high places and have thereby been bruised and beaten, for it is thought to dissolve blood congealed or cluttered in the intrals and to heal the hurt places”

Brugmansia suaveolens



Datura stramonium



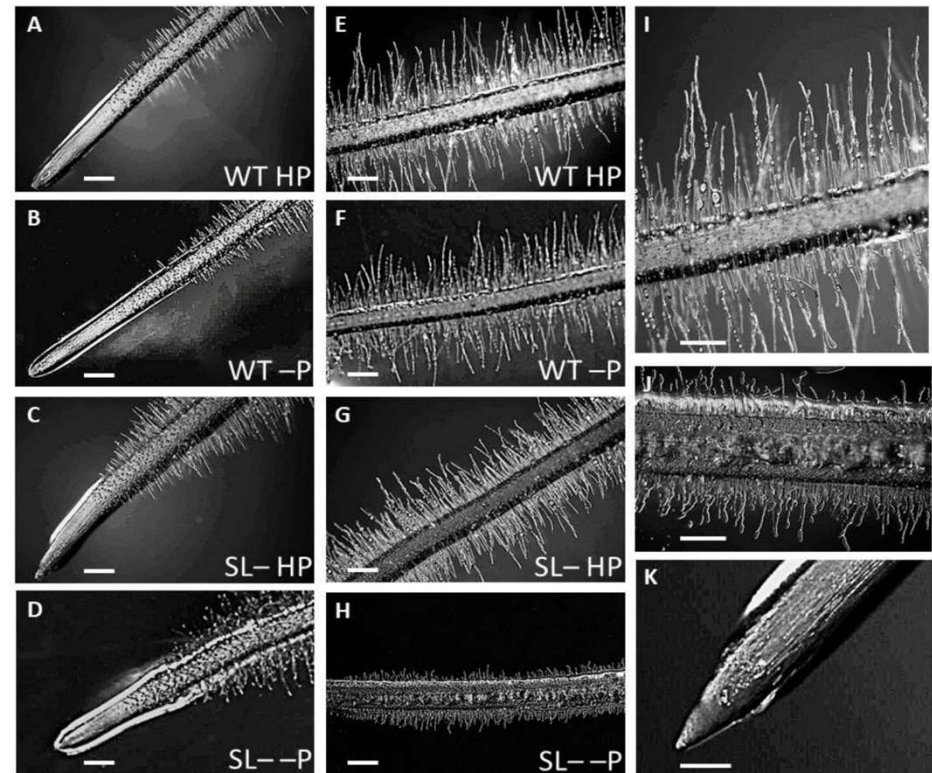
Solanum lycopersicum



Solanum lycopersicum

Root Hairs

100 – 500 hairs per Sq. mm of root surface area



Chemicals contained in Tomato Plants

Lycopene

Carotene (anti-oxidant and gives red colour).

Ascorbic acid

Phenolic acids and flavonoids

Vitamin B – thiamine, niacin, B6

Vitamin E (at low levels)

Glycoalkaloids (tomatine) in leaves and fruit at low levels 5mg/kg

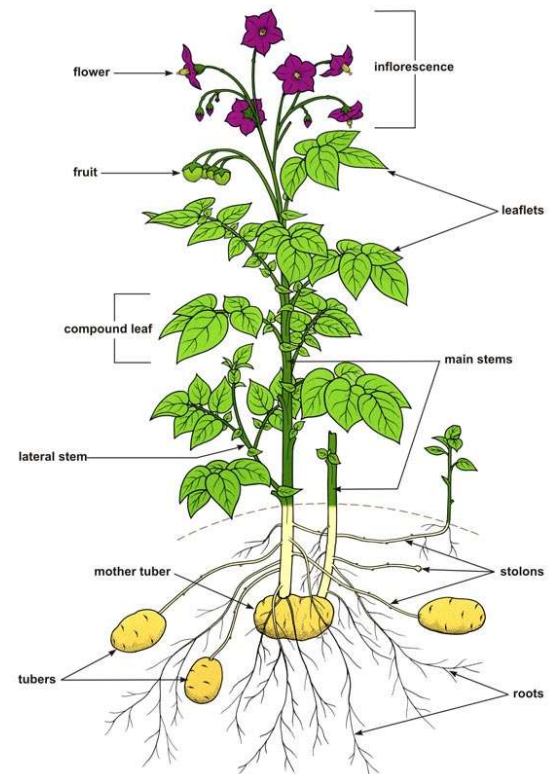
Unripe fruit levels at 500mg/kg giving a bitter flavour

Solanum tuberosum

The tuber is an enlarged underground stem

Each has 2 to 10 eyes or buds spiralling around the surface.

Each bud can produce new shoots and plants



Nicotiana tabacum

Active ingredients:

Nicotine

Harmin

Indigenous to:

N. & S. America

S.W. Africa

South Pacific

Australia



Nicotiana tabacum

Toxic chemicals in the smoke:

Carbon monoxide

Cyanide

Cadmium

Nickel

Various phenols

Various carcinogens



Nicotiana tabacum

Pests with natural resistance to the toxins

Tobacco moth and caterpillar



Tobacco beetle



Mandragora officinarum

