

WELCOME

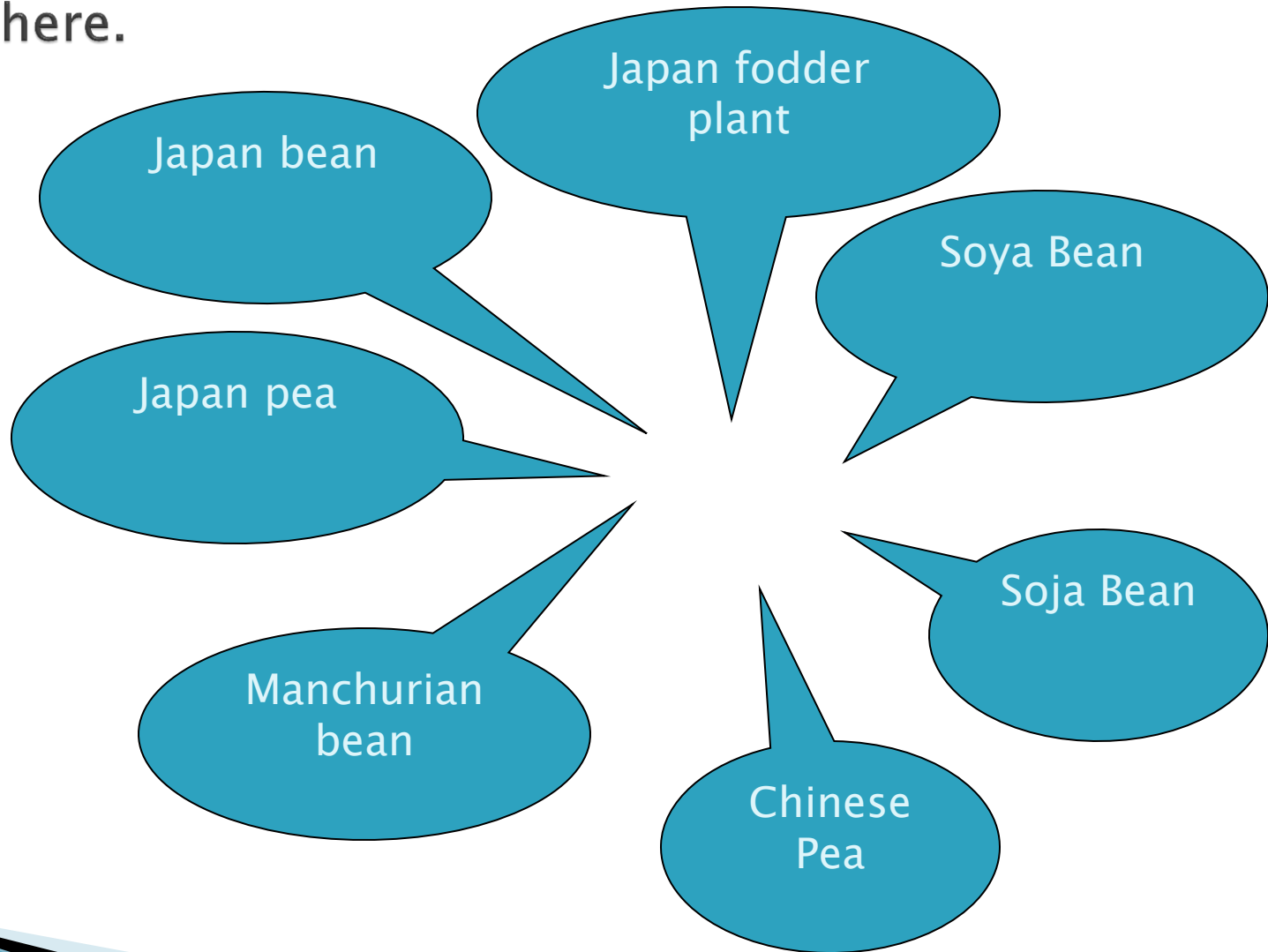


# Floral Biology of **Soybean** *Glycine max*



# Soybean: Origin

Soybean has had many names. Some of the names are listed here.

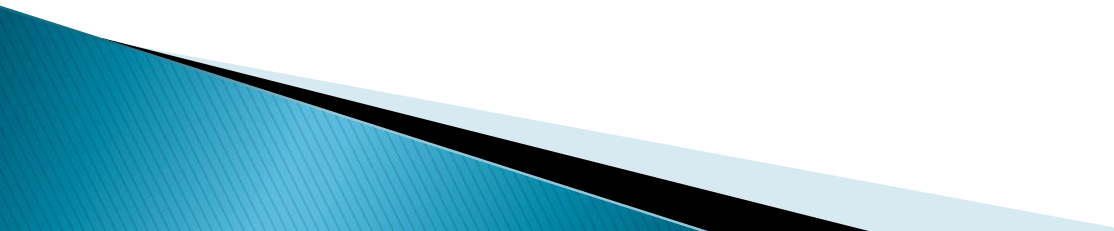


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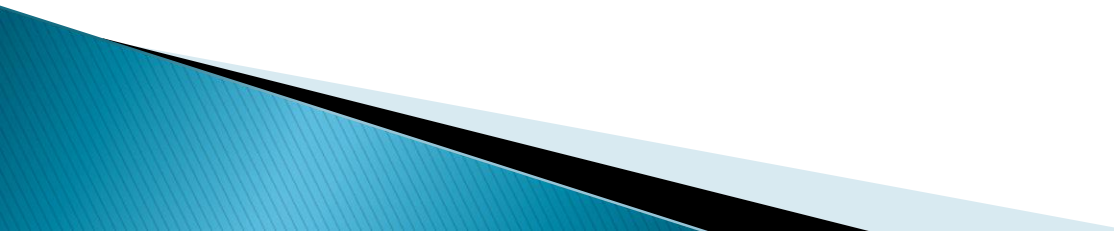
## Family Facts

- ▶ Soybean [*Glycine max* (L.) Merrill]
- ▶ Wild relative: *Glycine soja*
  - Most likely the ancestor of *Glycine max*
- ▶ Other relatives in China, Korea, Russia, Japan, Taiwan, and Australia
- ▶ Member of the Legume Family
  - Alfalfa
  - Peas
  - Dry beans

# Soybean Origin: Key Points

- ▶ Originated from China
  - ▶ Scientific name: *Glycine max*
  - ▶ Member of the legume family
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# Soybean History: Overall Concepts

- ▶ Soybean (*Glycine max*) originated in China.
  - ▶ Improvements in agronomics and processing generated more production.
  - ▶ Wars, weather, machinery and government rapidly increased soybean acres.
  - ▶ U.S. is the leader in soybean production, with Brazil, Argentina, and China following.
  - ▶ Most soybeans are processed into oil and protein for food and feed.
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# Maturity: Photosensitivity

- ▶ Soybeans are **photosensitive**
  - Begin to produce flowers when a critical dark period is reached (day length)
- ▶ Day length varies with latitude
- ▶ Soybeans were divided into types or groups according to their photosensitivity

# Growth Types

## ▶ Indeterminate

- Typically grown north of the 37<sup>th</sup> north parallel (about Lexington, KY)
- MG 00 through IV are in this area

## ▶ Determinate

- Typically grown south of the 37<sup>th</sup> parallel
- These types require more light for flowering
- Originally in south because of their ability to produce adequate forage

# Inflorescence

**The cultivated soybean bears flowers in clusters of 3 to 15 blossoms in the axil of a branch. Many flowers are shed without forming pods.**

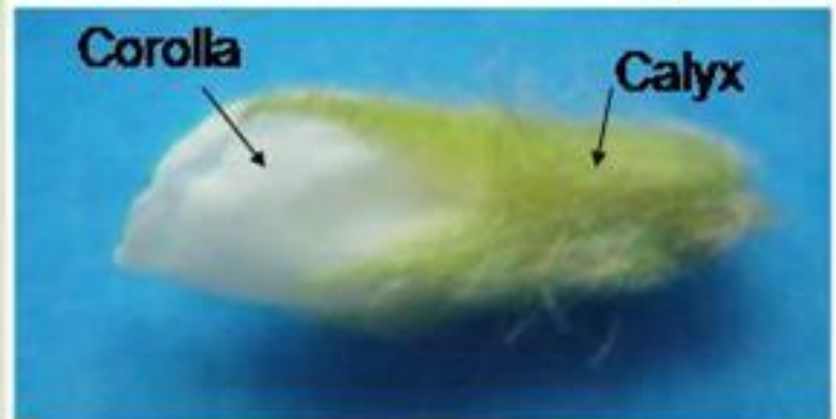
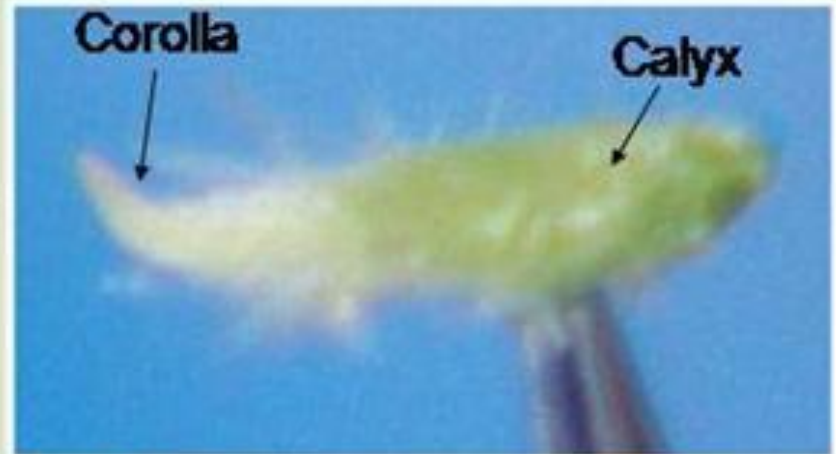


# Soybean

## Floral Biology

Flowers of soybean are very small, about 4–6mm long. It is very difficult to emasculate them because of small size and delicate attachment on the stem

### Young flower buds



# Gamosepalous



**Calyx**

5 sepals fused at the base



Fertilized ovary (showing developing pod)

# Soybean

## Floral Biology



**The corolla consists of five petals, which enclose a pistil and ten stamens. Nine stamens develop in a tube around the pistil; the tenth stamen remains free.**

Thank You