

Rattlebox *Crotalaria* spp.

Fabaceae (Legume family)



Habitat

Some species of *Crotalaria* were introduced as a soil-building cover crop for the sandy soils in the southeastern United States and have since become established in disturbed soils along fences and roadsides in Florida and Georgia. An indigenous species, *C. sagittalis* is common along river bottomland.

Description

Crotalaria are erect, herbaceous, variably hairy plants, and may be annual or perennial. The leaves are simple, alternate, lanceolate to obovate, with a finely haired under surface (Figure 4-8A). The flowers are yellow, with the leguminous calyx longer than the corolla (Figure 4-8B). The fruit is a leguminous pod, inflated, hairless, becoming black with maturity, and contains 10 to 20 glossy black, heart-shaped seeds, which often detach and rattle with the pod. Several species of *Crotalaria* have been associated with livestock poisoning including *C. sagittalis*, *C. spectabilis*, and *C. retusa*.

Principal Toxin

The principal toxins in *Crotalaria* spp. are the pyrrolizidine alkaloids (PA), the most notable of which is monocrotalamine. The alkaloid is present in greatest quantity in the seeds, with lesser amounts in the leaves and stems. All livestock, including domestic fowl are susceptible to poisoning. Although acute deaths will occur from eating large quantities of the crotalaria seeds or plant, more typically animals will develop signs of liver disease and photosensitization from a few days up to 6 months later. Monocrotaline also causes severe pulmonary changes, and horses have been reported to die after developing an acute fibrosing alveolitis from eating a feed containing 40 percent crotalaria seeds.^{63,64}



Figure 4-8A *Crotalaria* spp.



Figure 4-8B Rattlebox flower and seed pods (*Crotalaria spectabilis*).



Senecio
 Groundsel, tansy ragwort, butterweed
Senecio spp.
 Asteraceae (Sunflower family)

Habitat

More than 1200 species of *Senecio* are distributed throughout the world, with about 70 species occurring in North America. Approximately 25 species have been proven poisonous to animals, but there is high probability that other species of *Senecio* are toxic. *Senecio spp.* have a wide overlapping geographic range, but many are, however, selective in their habitat, some preferring high altitude, subalpine, moist conditions, whereas others prefer dry, rocky, or sandy soils at lower elevations. The more important toxic species of *Senecio* in North America are listed in Table 4-4.

Table 4-4 Species Associated with Livestock Poisoning	
SCIENTIFIC NAME	COMMON NAME
<i>Senecio jacobaea</i>	Tansy ragwort, stinking willie
<i>S. intergerium</i>	Lamb's tongue groundsel
<i>S. douglasii</i>	Woody or threadleaf groundsel
<i>S. riddellii</i>	Ridell's ragwort
<i>S. plattensis</i>	Prairie ragwort
<i>S. spartioides</i>	Broom groundsel
<i>S. glabellus</i>	Butterweed
<i>S. vulgaris</i>	Common groundsel



Figure 4-9A *Senecio* showing typical bract formation (*Senecio spp.*).

Description

Identification of individual *Senecio spp.* is difficult without being an experienced taxonomist. However, recognition of a plant as a member of the genus *Senecio* can be based on the presence of a single layer of touching, but not overlapping, greenish bracts surrounding the flower (Figure 4-9A). *Senecio spp.* have alternate leaves, generally lanceolate to ovate, dentate and often irregularly and deeply pinnately divided (Figure 4-9B). The composite flower heads are flattened terminal clusters with showy yellow ray flowers (Figure 4-9C). Seed is produced in both disc and ray florets, each seed with a tuft of white hairs that aid in wind dissemination (Figure 4-9D).



Figure 4-9B Tansy ragwort (*S. jacobaea*).