BULLETIN No. 3863

PLANTS CAUSING KIMBERLEY HORSE DISEASE

WESTERN AUSTRALIAN DEPARTMENT OF AGRICULTURE

PLANTS CAUSING KIMBERLEY HORSE DISEASE

By A. L. Payne, Agricultural Adviser, Derby

Crotalaria crispata and *Crotalaria retusa* (Rattlepod), two plants responsible for Kimberley Horse Disease*, are, unfortunately, fairly widespread throughout the Kimberleys. Both species are apparently toxic in all stages of growth.

This bulletin is to assist pastoralists to:—

- Identify the two plants;
- Recognise the type of country and conditions under which they grow; and
- Locate horse paddocks on country where the plants are least likely to occur.

CROTALARIA CRISPATA

C. crispata is more toxic than *C. retusa.* It is less showy and hence less easily recognised and is the more widespread.

It is a small, much branched annual shrub, rarely exceeding 12 inches tall, with woody, loosely hairy stems and greyish or silvery-green hairy leaves ½ to 1 inch long.

The flowers are small, yellow or yellowish-brown, and the kidney-shaped seeds are borne in small pods 3/16 in. long. Flowering begins in late February and may continue to July or later.

In some locations, old plants are capable of surviving a dry season and regrowing vigorously after opening rains.

Location

C. crispata is found on all types of sandy soils, especially sandhills. This includes red, grey, yellow and white sands.

It is frequently found on "pindan" country and sandy wash country in association with wattle scrub, scattered Bauhinia and Bloodwood timber, spinifex and shrubby plants.

C. crispata is favoured by and often found in dense stands on sandy country that has been—

- Heavily stocked or overgrazed, such as around bores, or
- Burnt out.

In this respect it acts as an invader plant when natural vegetation has been removed and is often very vigorous.

It may sometimes be found on heavier textured soils, such as sandy loams, but is not generally found on heavy black soils, grey clay, red clay, loam, gravel or stony country.

Palatability

When other good feed is available, *C. crispata* is not very attractive to horses. However, in the young, green stage when other feed is in short supply (especially on overgrazed or burnt areas) *C. crispata* is succulent and palatable. Seedlings come

* Other species of *Crotalaria* such as *C. novea-hollandiae* are known to contain alkaloids but are generally regarded as being unpalatable. Many species of *Crotalaria* grow in South Africa and India, where some have also been incriminated in disease problems of stock.

Crotalaria crispata.

away rapidly after rain storms and thus the danger is more acute late in the year.

When horses eat *C. crispata* they suffer irreversible liver damage. The effect of continuous small doses is cumulative and fatal if continued.

CROTALARIA RETUSA (Rattlepod)

Crotalaria retusa is an annual, 2 to 5 feet tall with erect branches and oblong or wedge-shaped leaves, 1½ to 3 inches long, dark green on the upper surface and paler underneath.

Flowers are yellow, very conspicuous and borne on an erect stem. Flowering occurs in April and May and seeding about July to August.

The pod is of parchment-like consistency, oblong club-shaped and inflated, at first standing erect. When ripe it becomes a deep purple, tends to hang down and contains a number of kidney-shaped yellow seeds which rattle in the dry pod.

Location

C. retusa is nearly always confined to creek banks, washout country and river frontages that are subjected to periodic flooding. It often occurs in dense stands and is very conspicuous when in flower.

It is never found in any abundance elsewhere but may occasionally be seen on stony sandstone hillsides. It is very unlikely to occur on open black soil plain country that is not subject to flooding.

Palatability

Mature *C. retusa* is rarely eaten by horses but, in the young, early growth stages it is likely to be palatable. Horses eating *C. retusa* will suffer the same liver damage as from eating *C. crispata.*

Recommendations

- Station managers should carefully inspect areas planned for horse paddocks and make sure that *C. crispata* and *C. retusa* are not present. If problems of plant identification are encountered, officers from the Department of Agriculture should be consulted.
- As *C. crispata* is widespread on sandy pindan soils and sandhill country, and also on sandy loam areas subject to depletion

Crotalaria retusa.

of natural cover, these types of country should not, if at all possible, be used for horse paddocks.

- Banks of watercourses and alluvial soils subject to flooding and sandy hill areas should be inspected for *C. retusa.* If the plant is present, these areas should not be included in the paddock.

- Existing horse paddocks should be inspected and, if necessary, alterations to fence lines planned or horses shifted to a clean paddock.

- Night paddocks and night camps where horses are hobbled out during the round of the mustering season should be inspected and, if possible, located off poison country. Working horses should be supplementary fed at this time of the year as this will reduce the amount of free foraging necessary and lessen the risk of a horse picking up poison plants.

- Once established, horse paddocks should not be used for holding bullocks or for other purposes. Using paddocks for purposes other than horse grazing may cause overgrazing and encourage the establishment of invader plants such as *C. crispata.*

9497/7/72—1M

WILLIAM C. BROWN, Government Printer, Western Australia