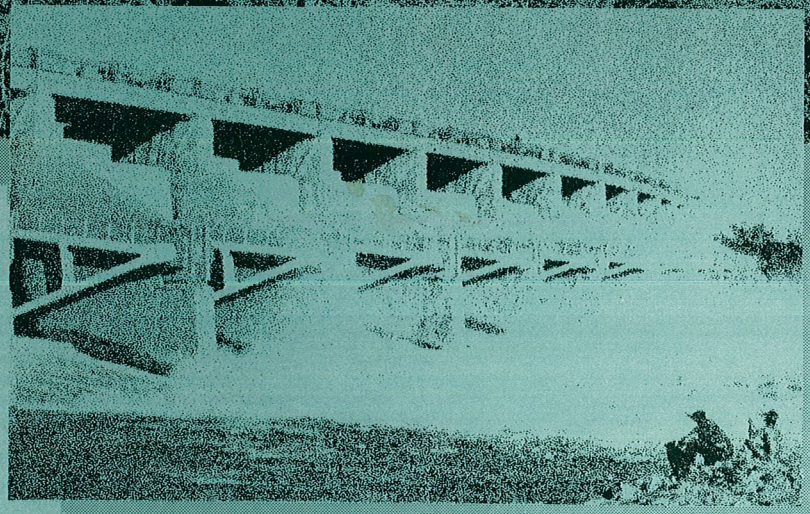
Western Australian Department of Agriculture

KUNUNURRA Region



SIGNIFICANT WEEDS OF THE KUNUNURRA REGION

by

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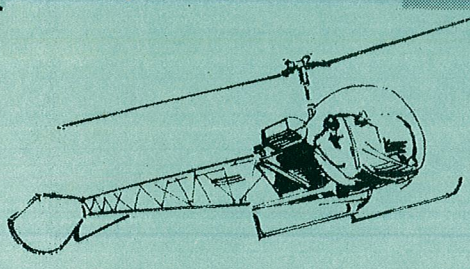

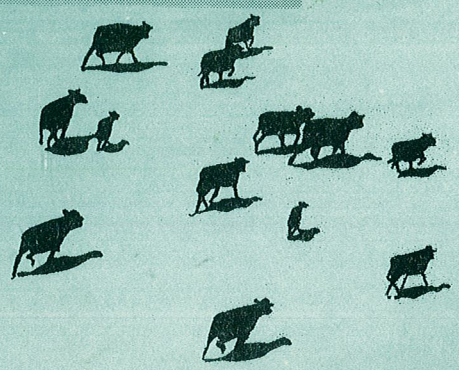

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Introduction

This document is designed as a preliminary introduction to weeds that may affect the farming activities of the Ord Valley District.

Almost certainly there are weeds which are not included in the collection which some farmers would consider important. Any weeds considered important can be added. It is not designed to be the definitive guide, but more a simple reference to identify weeds considered to be a problem in cropping situations.

Critical comments have been added to some references in the hope that farmers will make concerted efforts to control these weeds. Control methods have been deliberately left out simply because situations and weed combinations will vary.

It is hoped that through Tripartite negotiations with the Northern Territory and Queensland Departments of Primary Industry, a near complete guide to weeds affecting the northern and tropical parts of Australia will be produced.

Acknowledgements.

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Native Rosella

Abelmoschus ficulneus

NATIVE ROSELLA is a native plant of black soil areas of Queensland. An important weed in its ability to compete with crops because of its rapid growth. A prolific seeder NATIVE ROSELLA can grow up to 2m high. It has white hibiscus-like flowers. Leaves are long-stalked with 3 to 5 rounded and coarsely toothed lobes, heart shaped at the base. The pods are 2 to 4cm long and become hairy and sticky, ripening and splitting into 5 segments, releasing black globular seeds about 4mm across.

The plant often causes skin irritation and the sap is toxic.

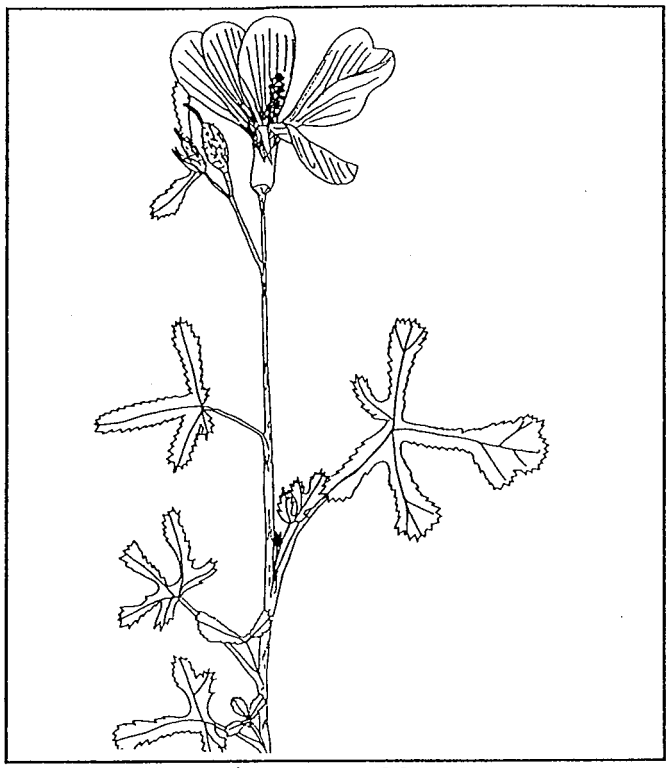

Figure 1 Native Rosella

Figure 2 Budda Pea

Budda Pea

Aeschynomene indica

Sparsely branched annual up to 1m high, with alternate narrow 10cm long leaves, consisting of 40 to 60 leaflets. Leaflets are oblong and blunt at the tip, about 4 to 8mm long and 2mm wide. Yellow pea shaped flowers about 8mm long in clusters of 2 to 4 in leaf forks. Pods about 5cm long by 4mm across, indented on one side between the seeds.

Not a serious competitor in a cropping situation, with most growth occuring late in the dry.

Green Amaranth

Amaranthus viridus

A prostrate herb growing up to 2m high with alternate leaves sometimes with red stems. Leaves about 2 to 10cm long and up to 6cm wide. Sometimes blunt to indented at the end, tapered to a short leaf stalk. The flowers are small, green to yellow in colour and found at branch ends and upper leaf forks. Fruiting capsules in spikes, with 1mm long capsules. Seeds are round lens-shaped and shining red, brown to black, about 1mm long.

This plant can be toxic to hungry animals.

Figure 3 Green Amaranth

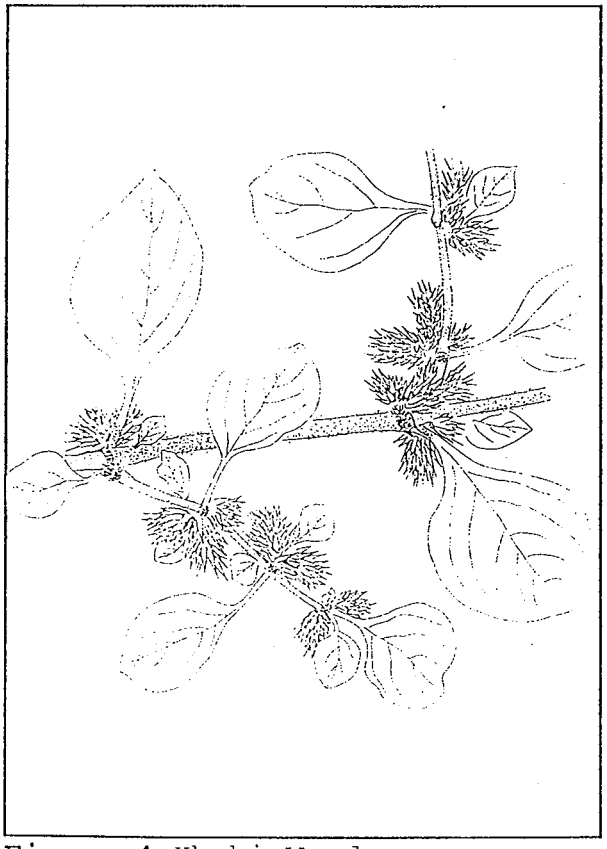

Figure 4 Khaki Weed

Khaki Weed

Alternanthera pungens

A perennial weed with a thick tap root and numerous prostrate stems, rooting occurs at every joint, forming thick mats on the ground. Leaves are opposite, dull green in colour, 12 to 37mm long, with rounded, tapering short stalks. Flowers are cream coloured, in dense clusters in the forks of almost all leaves. The chaffy petals which end in hard, sharp points, adhere to feet, hair, clothing and tyres.

Native Couch

Brachyachne convergens

NATIVE COUCH is a tufty annual with a weak root system. It has numerous sprawling branches and erect stems with elbows at the lower joints. The leaf sheaths are loose, tending to overlap. Leaf blades are flat, short and up to 4mm wide. The flower-cluster consists of 3 to 5 dorsally compressed hand-like spikes with thin, translucent spikelets, 4 to 7mm long, lying flat on the axis of the spike. NATIVE COUCH differs from true COUCH *Cynedon dactilion* in the flower which is finer and more open.

Generally found on heavy clay soils, NATIVE COUCH does contain a glycoside (hydrogen cyanide) highest in concentration in its early summer growth.

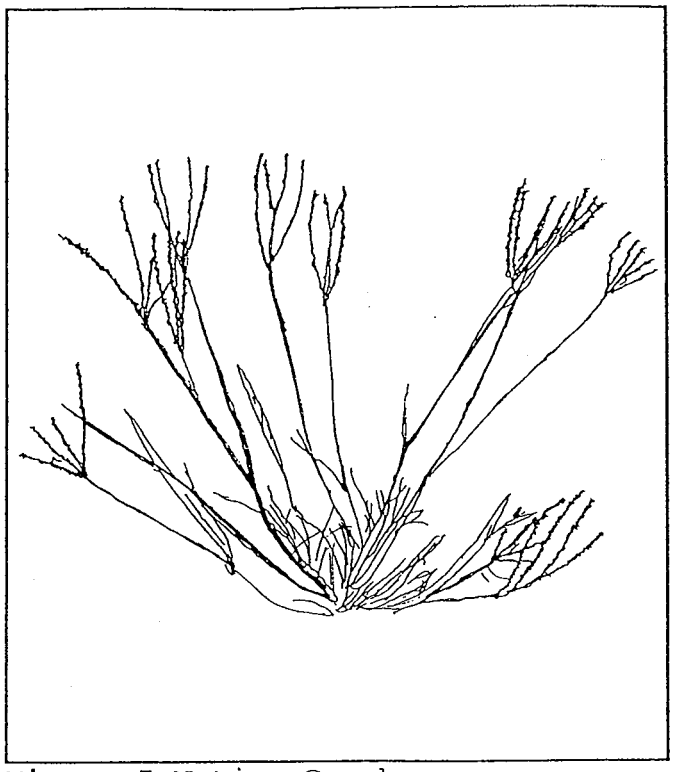

Figure 5 Native Couch

Figure 6 Para grass

Para Grass

Brachiaria mutica

A perennial grass with stout, creeping stems, rooting at the joints, standing up to 1m high. Tufts of hairs encircle the stems at the junction of the leaf sheath and stem. Sheath often hairy with leaves about 15cm long and 8cm wide, tapering to a long fine point. Seed heads about 18cm long and not very broad, 5cm long spikes arising at intervals from the main axis. Seeds cluster thickly on spikes.

PARA GRASS is often grown as a fodder grass in the tropics and is very palatable. A vigorous and aggressive weed in flood irrigated situations.

Calatropis

Calatropis procera

A spreading shrub or small tree up to 4m high, which exudes copious milky sap when cut or broken. Leaves are opposite, grey green in colour and up to 15cm long and 10cm wide, with pointed tips, two rounded basal lobes and no leaf stall. Flowers are waxy white, with 5 petals, purple tipped inside and a central purplish crown, carried in stalked clusters at the ends of the branches. Fruit is grey green, inflated, 8 to 12cm long, containing numerous seeds, with tufts of long silky hairs at one end.

Found mainly along channel banks and unused land, stumps and regrowth will cause problems when previously worked land is resumed.

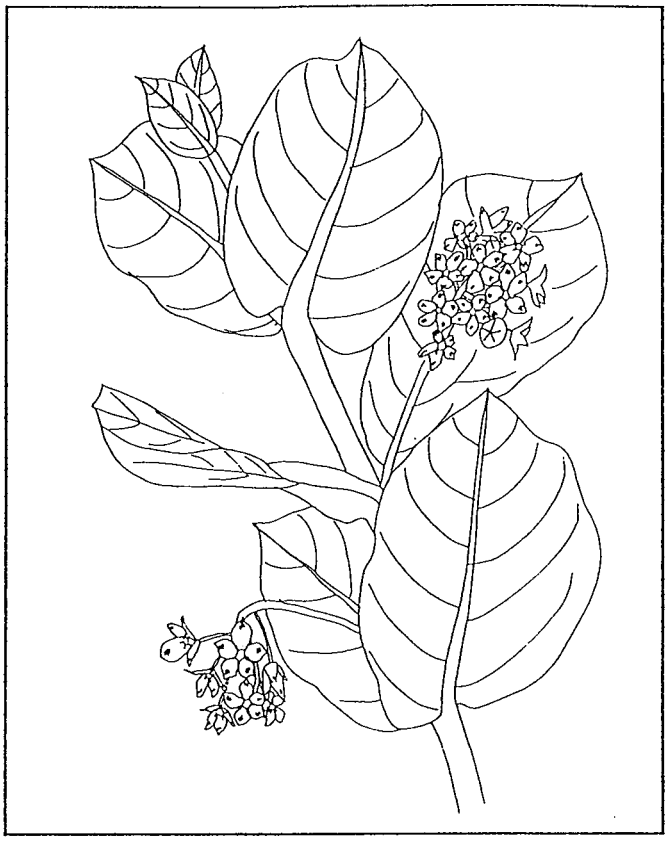

Figure 7 Calatropus

Figure 8 Spiny Burr Grass, Mossman River Grass

Spiny Burr Grass, Mossman River Grass, Innocent Weed

Cenchrus echinatus, C. pauciflorus.

Both are annual grasses with erect stems forming loose tufts. Leaves are pale-green, flat and rather stiff, tapering towards the tip. Seed heads are narrow, spike like, with many closely packed burrs about 4mm across, forming a ring of stout, broad, spiny brittles joined together at the base.

The Burrs cling to hair, clothing and sometimes the skin, creating discomfort for all working in horticultural crops.

Rhodes Grass

Chloris gayana

Purple Top Chloris

Chloris barbata

Both grasses are perennial, about 60cm to 1m high and tufted, with creeping stems. Leaves up to 20cm long, tapering to a long fine point. Seed heads of about 6 to 12 closely packed spikes, about 6cm long, spreading from the top of an erect stalk. RHODES GRASS seeds are a dull brown, arranged in two rows on spikes, falling when mature, leaving the empty paper husks behind.

PURPLE TOP CHLORIS differs from RHODES GRASS, with its seeds being purple in colour with three fine, hair like projections, giving the spikes a shaggy look.

Figure 9 Rhodes Grass

Figure 10 Mustard Bush

Mustard Bush

Cleome viscosa

Sticky, hairy, strong smelling annual herb, with divided alternate leaves. Leaflets usually 3 to 5 in number, dull green in colour, arising from one point at the end of the leaf stalk, of a narrow to broad lanced shape. Flowers vary from white to purple but are mostly yellow. MUSTARD BUSH favours sandy soils and is generally spread by cultivation.

Wandering Jew

Commelina ensifolia

Succulent, climbing and sprawling annual, with purple flowers. Leaves are long, thin, alternate and lanced-shaped, with the exception of the leaf directly below the flower, which is broader. Flowers are made up of 3 fragile, purple, clawed petals about 1cm long. This weed can be difficult to control with herbicides.

Figure 11 Wandering Jew

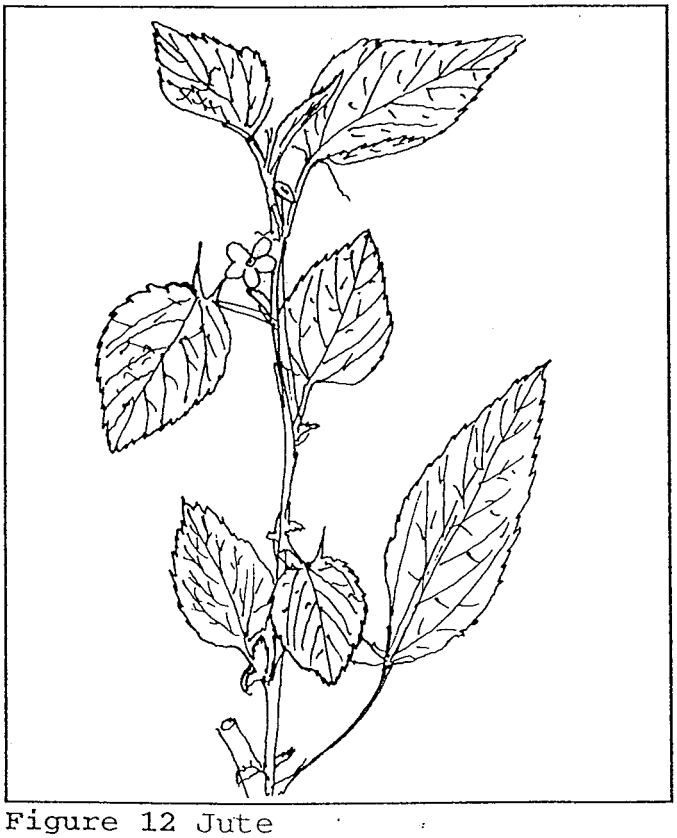

Figure 12 Jute

Jute

Corchorus olitarius

An erect, woody-based annual herb, up to 2m high, with little branching, a tough, fibrous bark and stout, erect, ribbed cylindrical fruits. Leaves alternate, bright above and paler underneath. The leaves are lance-shaped, having serrated edges, with the lowest set of teeth elongated into fine hairs. Leaves vary from 6 to 12cm long by 1 to 6mm wide. Flowers are small and yellow, with 5 petals, carried on short stalks, either singly or in pairs in the leaf forks. Fruit are 3 to 7mm long and about 5mm in diameter, tapered, splitting into 5 parts at maturity, with many small dark-brown seeds.

New Holland Rattlepod

Crotolaria novea-hollandiae

An upright annual, growing to 80cm tall. It has dark green leaves, bright yellow flowers, with club-shaped pods which rattle when mature.

NEW HOLLAND RATTLEPOD is sometimes confused with WEDGE LEAF RATTLEPOD *(C. retusa.)* which grows slightly taller, with more wedge shaped leaves and a small notch at the apex.

Neither are regarded as palatable to stock, and both contain toxic alkaloids potentially dangerous to horses. Symptoms are consistent with Kimberley Horse Disease or Walkabout.

Figure 13 New Holland Rattlepod

Figure 14 Trefoil Rattlepod

Trefoil Rattlepod

Crotolaria trifoliastrum

The plant grows to one metre tall, with distinct trifoliate leaves and bright yellow flowers, which occur in clusters near the end of long stems.

TREFOIL RATTLEPOD is mainly confined to uncleared or unused land and care should be taken when horses are grazed in areas with high infestations. The abundance of TREFOIL RATTLEPOD increases, with the potential of the wet season.

Wild Melon

Cucumis melo

An annual from seed or growing from perennial root stock. Prostrate in habit or found climbing by simple tendrils. Leaves are heart shaped 2 to 7mm long, 3 to 5 lobes, with the middle lobe often in three parts. Pale yellow flowers, with the female flowers being on shorter attachments than the male flowers. Fruit ovoid and smooth, a prolific seeder.

WILD MELON is an important weed. It is a known host of mosaic viruses during the wet season, perpetuating this problem in the Valley's Cucurbit industry.

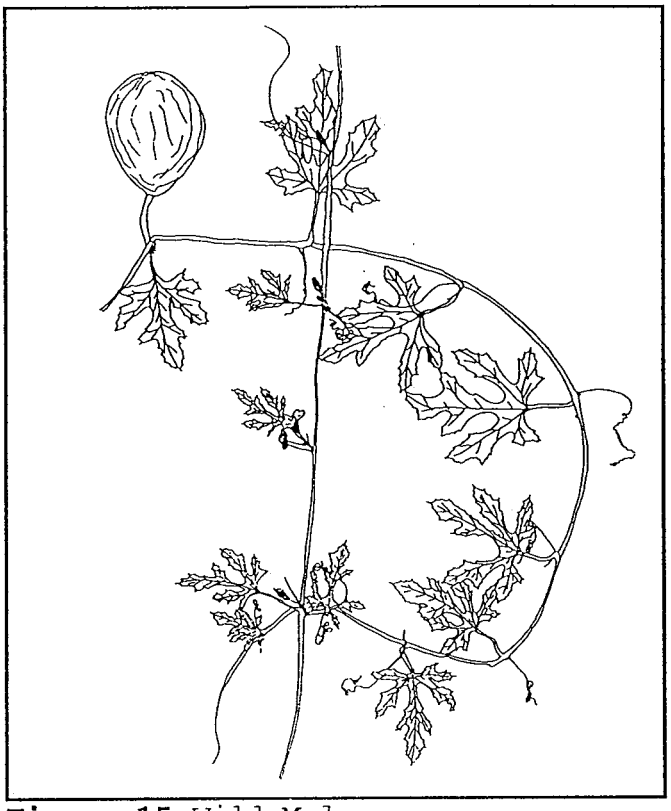

Figure 15 Wild Melon

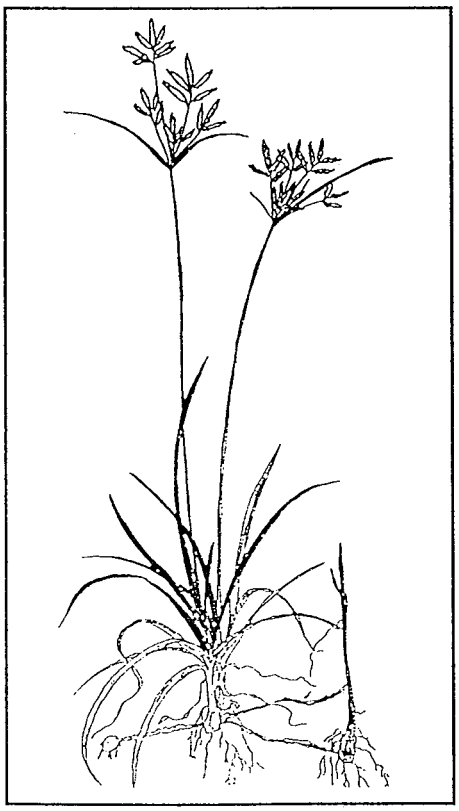

Figure 16 Nut Grasses

Nut Grass

Cyperus

There are several types of NUT GRASSES occurring in the valley. They are generally found in clumps in irrigated areas, near channel banks and other damp areas.

A typical nut grass is *Cyperus rotundus*, it is grass-like, usually under 30cm tall, with underground runners and tubers. Tubers are egg shaped, about 12mm long and covered with dark-brown skin. Leaves are bright green, in a cluster at ground level, 7 to 12cm long, narrow and tapering to a fine point.

Seed-heads are on a single, thin, three cornered stalk, bearing at the top 2 to 4 green leaves. Within these leaves arise 4 to 5 branches of varying length, each with a cluster of flattened little spikes at the end.

A difficult weed to control, due to its extensive underground distribution of tubers, which even when separated from the main plant will germinate. Mechanical control is a poor option in controlling this weed.

Finger Grass, Summer Grass

Digitaria bicornis

An annual with a spreading habit. Fine, bent stems sometimes rooted at nodes. The leaf sheaths are loose, hairy and lined, while the blades are flat, 4 to 8cm long and 3 to 4mm wide. The seed-head has 2 to 6 slender spike-like fingers, each 7 to 12cm long.

An introduced grass, principally for grazing purposes, it has steadily become established throughout the valley.

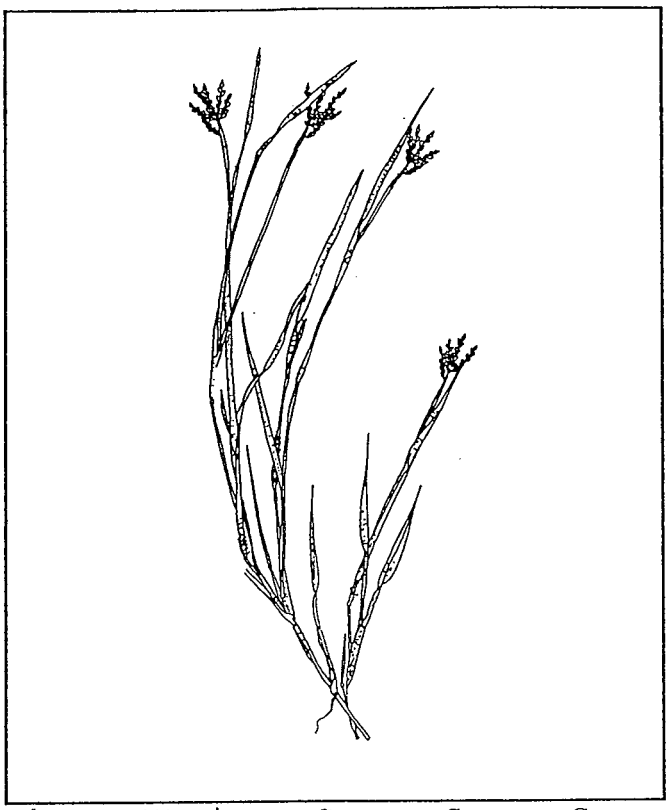

Figure 17 Finger Grass, Summer Grass

Figure 18 Barnyard Grass

Barnyard Grass

Echinocloa colona

BARNYARD GRASS is often bent outwards at the base. A strong growing, summer annual about 60cm high. Seeds are in 3 To 4 rows and do not have any awns.

Peach Wood

Ehertia saligna

A small native tree, 4m high, with narrow, drooping leaves. It has small, white flowers and red fruits, 4mm in diameter.

Common along irrigation channels and newly cultivated areas.

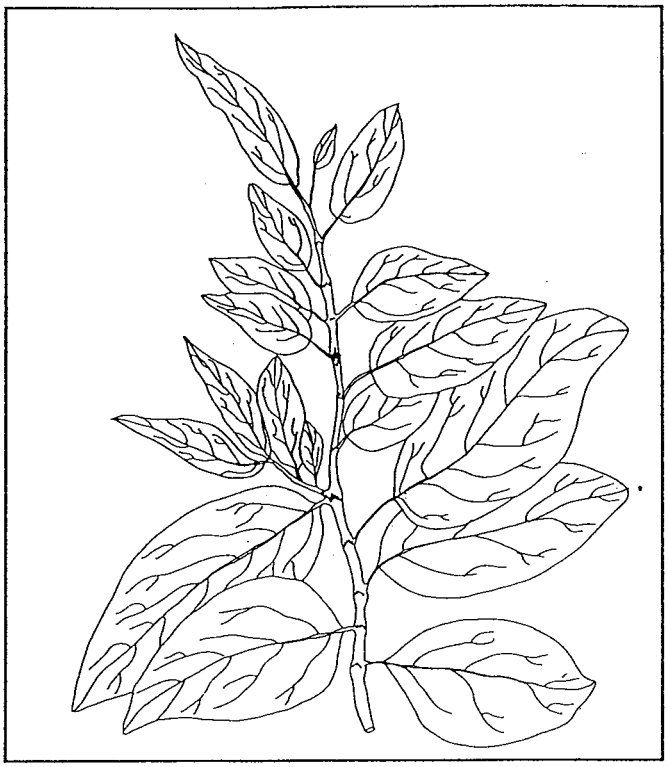

Figure 19 Peach Wood

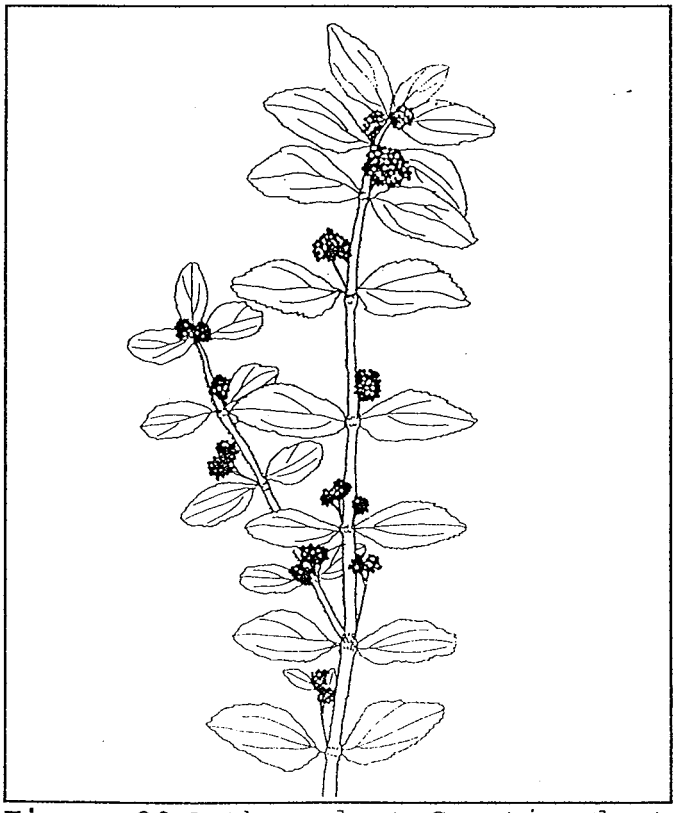

Figure 20 Asthma plant,Caustic plant

Asthma Plant, Caustic Plant

Euphorbia hirta

A small plant, usually sprawling but sometimes erect, about 15cm high. Leaves opposite, distinctly saw toothed, about 2.5cm long and 6mm wide, usually red-brown in colour. Small flowers appear in tight clusters between the pairs of leaves.

Native Hibiscus

Hibiscus panduriformus

An erect shrub, 1 to 2m high, with grey-green furry leaves, which are rounded, but with crinkly edges and a heart-shaped base. Leaves are much paler underneath and 4 to 9cm in diameter. The flowers are bright yellow with a crimson centre and very sticky in the late wet season.

The fruit is a capsule 10 to 20cm long.

Common on clay soils and road verges.

Figure 21 Native Hibiscus

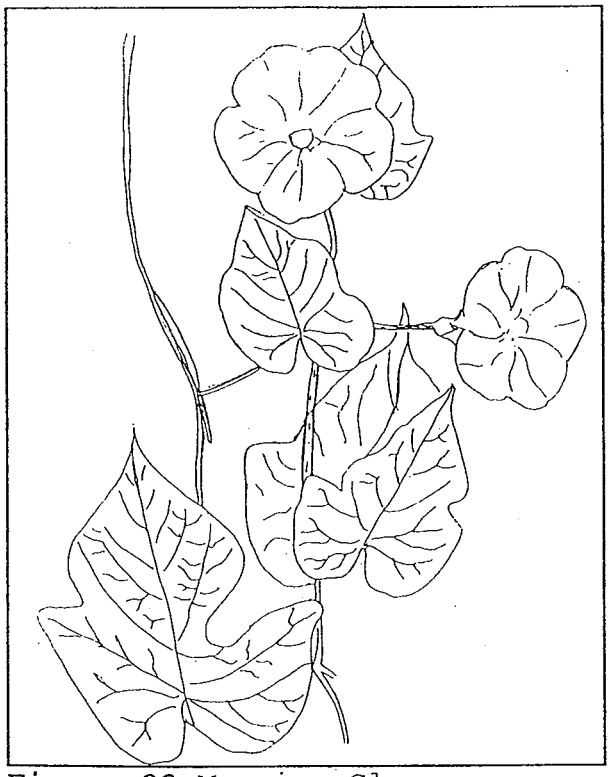

Figure 22 Morning Glory

Morning Glory

Ipomea gracilus

A vigorous twiner, with large, purple-pink flowers with crimson centres. Leaves are alternate, dark green, heart shaped and split at the stem base, forming a cup, and ending in a sharp point.

Capable of smothering low ground crops and causing problems during harvest.

Flinders Grass

Iseilema vaginiflorum

A tufted annual grass which grows to 75cm high. The stems are erect or bent at the base. The leaf sheaths are compressed, smooth and keeled. The ligule is short and membranous, with short hairs. The leaf blades are flat, 2 to 6mm wide and have a smooth or powdery surface. Stems are generally smooth, purple in colour and form a tangled mat between perennial grasses.

Valued highly by pastoralists, it can become a nuisance if allowed to establish in cropped areas.

Figure 23 Flinders Grass

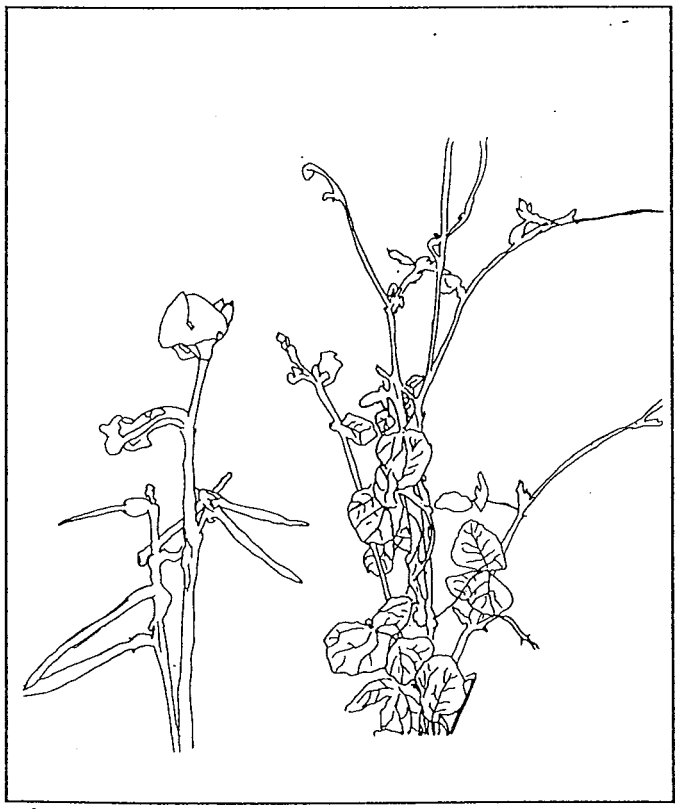

Figure 24 Phasey Bean

Phasey Bean

Macroptilium lathyroides

Erect, slightly branched, woody-based plant, growing to about 1.5m high. Sometimes twining, with long, narrow pods, which become twisted after opening. Leaves are alternate, composed of 3 lanced-shaped leaflets, about 4 to 7cm long and 1 to 2cm wide. Leaves often appear, with a characteristic broadening of the leaflet, near its rounded base. Flowers are dark purple, sometimes slightly greenish, about 2cm long, pea-shaped and carried in groups on long stalks up to 20cm long in the leaf forks. Pods are about 10cm long and 4mm wide.

Not a good competitor, but can become established in channels and other unworked, wet areas.

Pumpkin Vine

Operculina brownii

An annual twiner, with narrow wings on the stems. Leaves are usually large, heart-shaped, pointed at the tip and indented at the base, up to 15cm wide and 10 to 15cm long. They are generally dark green. Large white flowers are funnel-shaped and carried in the leaf forks. Seed capsules are green becoming opaque at ripening, approximately 20mm across, containing 4 black seeds, 5mm across. The seed is capable of lasting 3 to 4 years in the soil, making control difficult if it is allowed to establish in cropped areas.

This weed can be quite serious, because it smothers ground crops, tangles free standing crops, which can make harvesting very difficult.

This weed also presents a problem to the cucurbit growers of the valley. Pumpkin vine has been identified as a host plant to mosaic viruses during the wet season.

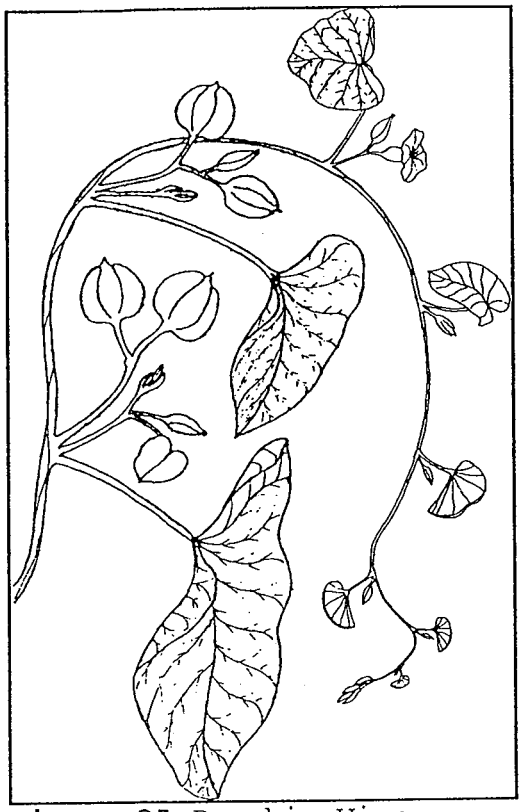

Figure 25 Pumpkin Vine

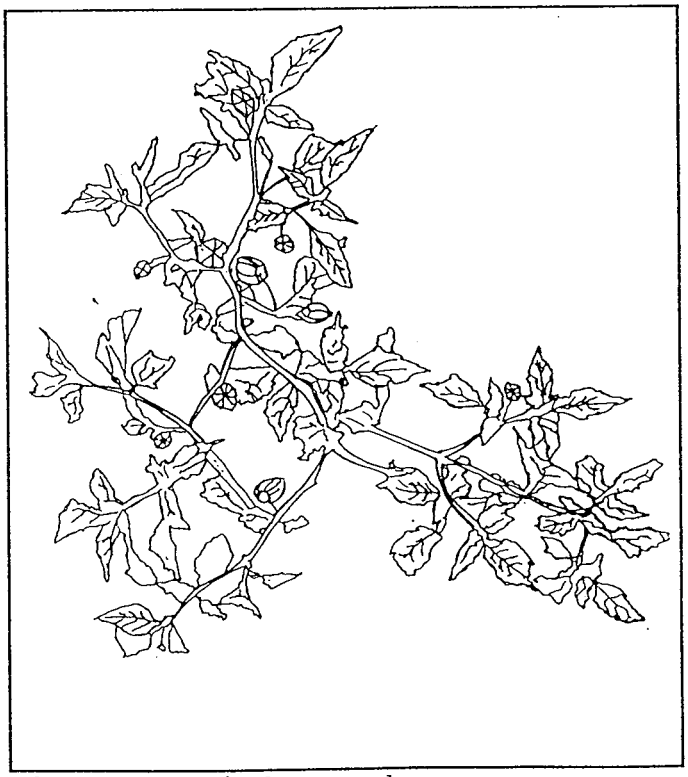

Figure 26 Wild gooseberry

Wild Gooseberry

Physalis minima

Erect, soft, pale green annual, 30 to 100cm high, with spreading branches and inflated fruits. Leaves are alternate, pale green, thin, 6 to 12cm long, 2 to 5cm wide and irregularly toothed on the margin. Flowers are pale yellow, sometimes with brown spots in the centre, cup-shaped about 1cm across and born singly in the forks of the leaves. The fruit is a yellow berry about 1cm across, completely enclosed, in a straw-coloured, 5 pointed and inflated paper shell about 2.5cm across.

A serious problem in ground crops, particularly at harvest, where samples can become down-graded due to WILD GOOSEBERRY contamination.

Polymeria

Polymeria ambigua

A more prostrate growing plant with trailing stems, which are covered in coarse, long hairs. Leaves are heart shaped, 10 to 35mm long, terminating in a short point. Flowers occur singularly and are generally pink from 10 to 15mm long x 5 to 6mm in diameter.

POLYMERIA has an extensive root system, presenting problems controlling the weed using cultivation. It is also quite resistant to glyphosate herbicide.

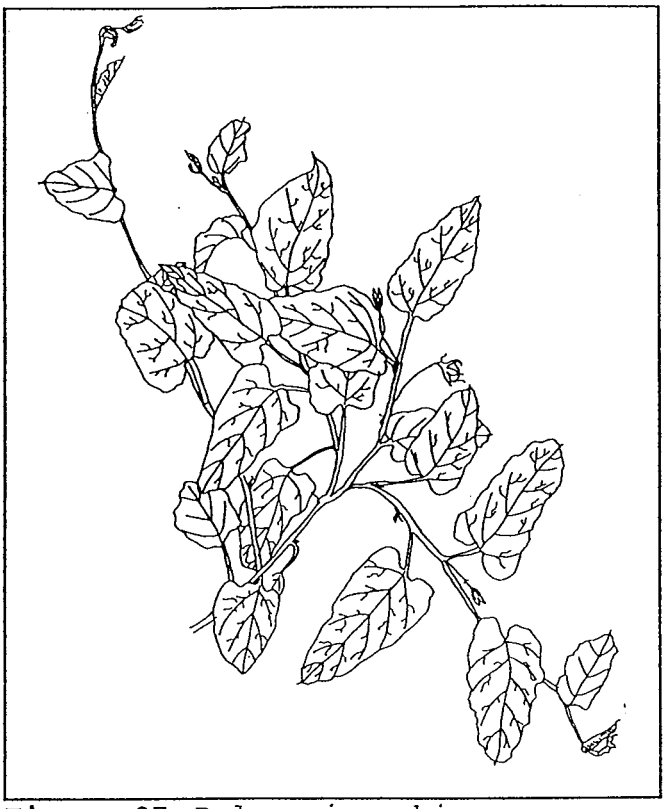

Figure 27 *Polymeria ambigua*

Figure 28 *Polymeria longafolia*

Polymeria

Polymeria longifolia

An erect perennial under 30cm high, with an extensive underground root system and slender, slightly branched stems. Leaves are grey-green to silvery in colour, silky-hairy in appearance, alternate, long and narrow, up to 8cm long and 1cm wide, with tapering pointed tips and small, pointed basal lobes. Flowers are pale pink, funnel shaped and about 2cm across. Flowers are usually carried singly on long thin stems in the leaf joints. Capsules are globular and papery, up to 1cm across.

Due to the extensive root system and a resistance to Glyphosate herbicide, control of this weed can be difficult.

Portulaca

Portulaca oleracea

A fleshy annual, prostrate, with paired leaves, wedge-shaped at the base and usually broad and slightly notched at the top. Stems are green to purplish and round in cross section. Leaves are succulent, about 15 to 20mm long and 10mm wide. Flowers are yellow, about 8mm across, with 5 petals, which fall off the day the flowers open, leaving a small, green calyx. The Capsule top falls off when ripe to release reddish brown seeds.

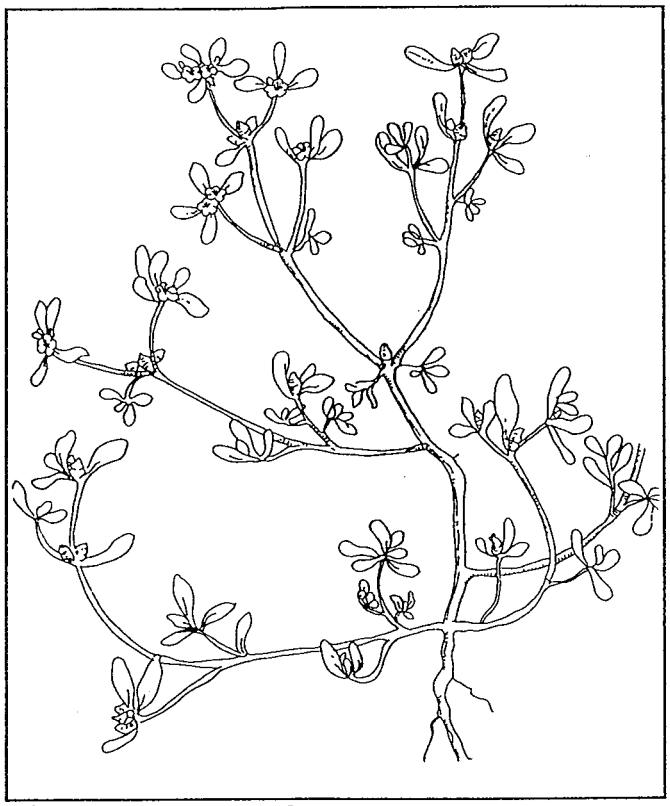

Figure 29 Portulaca

Figure 30 Sesbania Pea

Sesbania Pea

Sesbania cannabina

Tall, slender, annual shrubs, branched in the upper part, with long alternate leaves, divided into 12 to 30 pairs of leaflets. Leaflets are oblong, 8 to 18mm long, blunt at the tip, but with a small point. Flowers are pea-shaped, yellow to orange-yellow, with dark streaks on the back, carried singly or in groups of 2 or 3 on short stalks in the leaf forks. They are about 1cm long. Pods are long and slender, 12 to 20cm long and about 3mm wide, almost straight, olive-green to brown in colour, with darker markings between the seeds. Seeds are oblong, dark brown, and about 4mm long.

Sida

Sida spinosa

An annual or short lived perennial herb 30 to 80cm high with several branches near the ground. These upright stems have secondary branching in a pinnate (fishbone)pattern. The leaves are 2 to 5cm long with serrated edges. The flowers are bright yellow and less than 1cm across. The fruit is 4 to 6mm long, composed of five segments each of which has 2 sharp awns at the top. The fruit is held in a papery five pointed calyx tube.

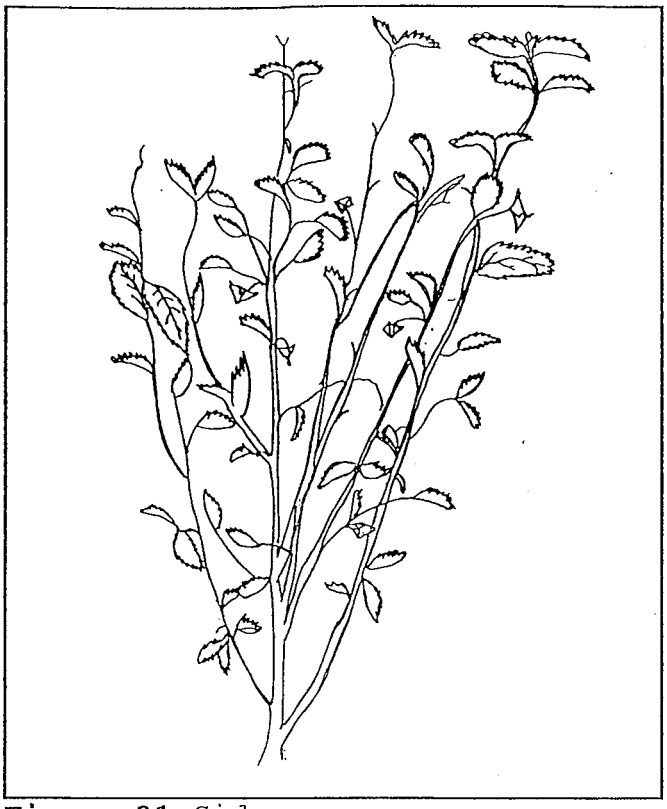

Figure 31 Sida

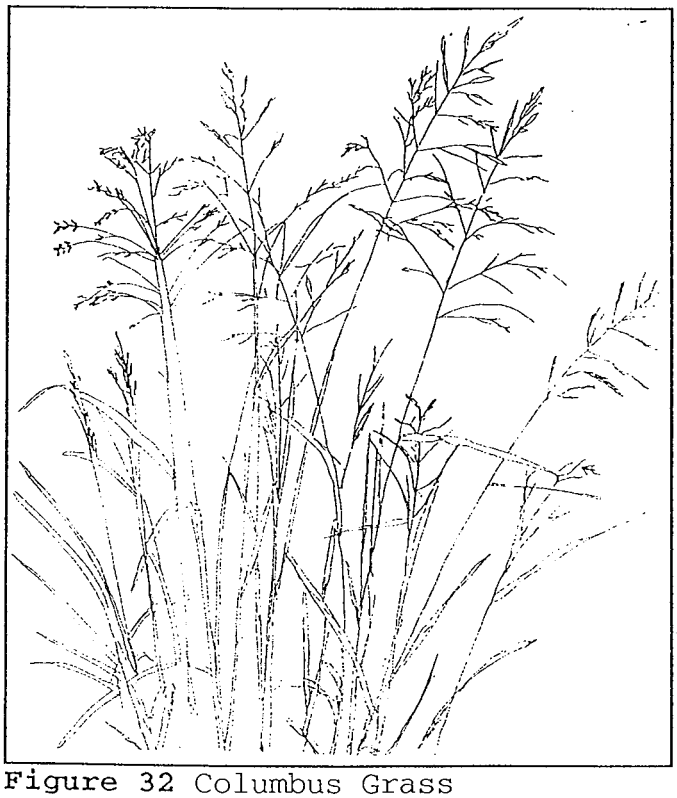

Figure 32 Columbus Grass

Columbus Grass

Sorghum almum

Not unlike *S. halpense* in its growth above the ground *S. almum* has large rhizomes up to 10mm thick, making cultivation a poor option for control. Another difference is a pail yellow line running down the centre of the leaf, sometimes not visible. Like JOHNSON GRASS, COLUMBUS GRASS has the ability to ruin commercial grain breeding programs through cross contamination and every endeavour should be made to control this weed.

Johnson Grass

Sorghum halepense

A perennial grass with numerous white or reddish underground runners. Stalks are stout, erect 1 to 2m high. Leaf blades are rich green, 30 to 37cm long, usually less than 12mm wide. Seed heads are 22 to 30cm long, about 20cm across, of many slender branches at intervals along a central stalk. Each branch divides into finer branches bearing seeds of two kinds, small narrow male seeds and larger female or fertile seeds. Fertile seeds are about 6mm long, densely covered with silky hairs, bearing at the end a brown bristle, which is bent, twisted and more than 12mm long. Some forms of JOHNSON GRASS have seeds with no bristles.

Whilst this grass has some feed value despite its problems with hydrogen cyanide, it has the potential to ruin the commercial sorghum grain breeding programs well established in the Valley.

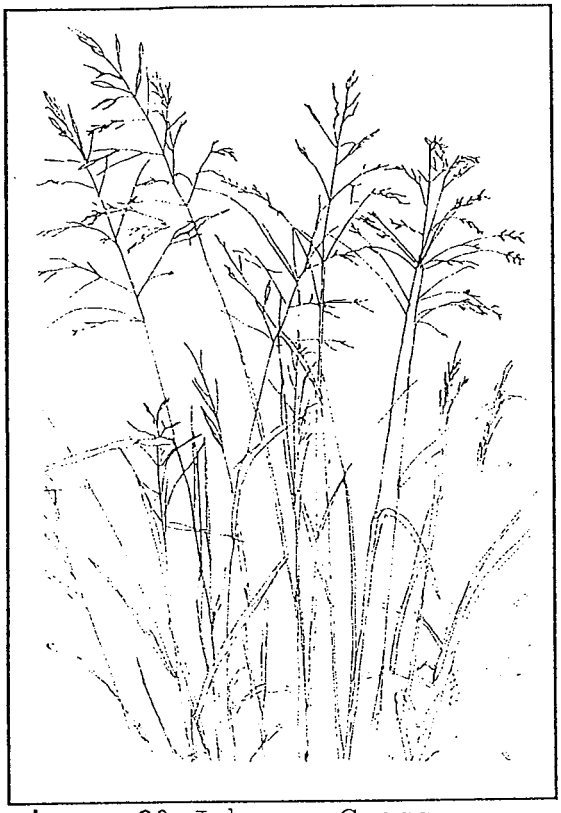

Figure 33 Johnson Grass

Figure 34 Giant Pigweed

Giant Pigweed

Trianthema portulacastrum

A prostrate, fleshy annual, with round stems, covered with very short hairs, except in the older parts of the plant. Leaves are opposite and stalked. Bases of leaf-stalks expand into shallow cups.

Found throughout the Ord Valley, GIANT PIGWEED has the ability to spread and smother, particularly in the early stages of crop growth, developing into a serious problem if allowed to grow unchecked.

Caltrop

Tribulus terrestris

A summer growing annual, prostrate with stems up to 1m long. Young plant stems and leaves have silky hairs. Leaves are opposite with 5 to 7 pairs per leaflet. Pale yellow flowers of five segments, varying in size from 1cm on light sandy soils to 3cm on heavy black soil. Fruits are spiny burr-like thorns composed of five segments, 2 long and 2 or 3 short. More so a problem on lighter soils, this weed has taken a hold in the valley in recent years and if not controlled, could become a serious problem to horticultural and grazing operations.

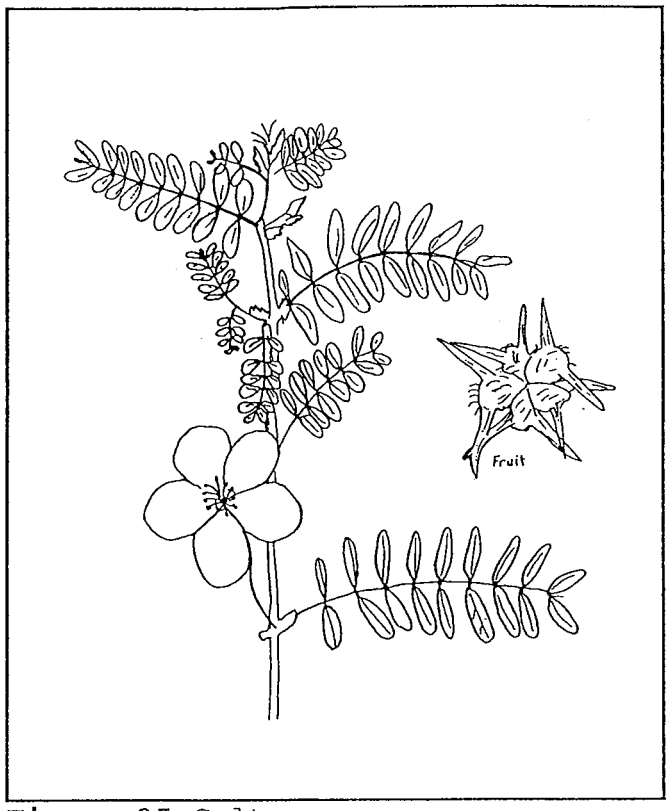

Figure 35 Caltrop

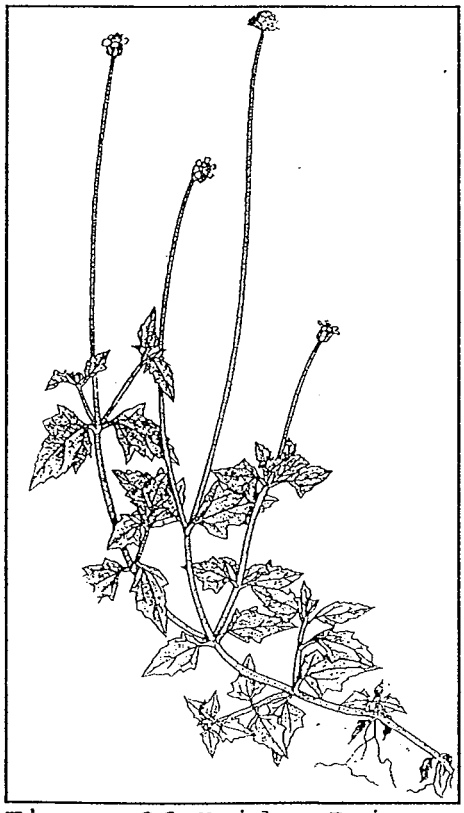

Figure 36 Tridax Daisy

Tridax Daisy

Tridax procumbens

A perennial herb with spreading prostrate stems, rooting at the joints. Leaves are opposite, lance-shaped, irregularly toothed, 2 to 4cm long and half as wide. Flowers are pale yellow and daisy-like, with deeper yellow centres. Seeds are small, silky-hairy in appearance, with a tuft of hair at the top.

Sabi Grass

Urochloa mosambiccensis

A sprawling, soft, hairy, perennial grass up to 1m high, rooting occuring at the lower leaf joints. Leaf blades are up to 18 mm wide, tapered to a long, fine point. Seed heads are up to 15cm long, of 4 to 12 alternately arranged spikes of seeds.

A native of South Africa, it has some value as a cattle feed.

Figure 37 Sabi Grass

Figure 38 Wild Mung Bean

Wild Mung Bean

Vigna radiata

An annual, erect or semi-erect, hairy, shrubby herb, 30 to 120cm tall, diffusely branched, with tendency to twine at the tips. Leaves are alternate, trifoliate and dark green, with scattered hairs on both sides of large leaflets, attached to long petioles. Flowers are pale yellow and slightly flattened, in clusters of 10 to 25. Pods are black, grey or brownish, 2.5 to 10cm long, 4 to 6mm wide and slightly flattened. Seeds are 10 to 20 per pod and usually green but may be olive, yellow, brown or mottled.

Noogoora Burr

Xanthium pungens

A spreading annual, which reproduces from seed. Single plants are branched but when found in clumps they tend to have an unbranched single stem. Growth ranges from 120cm to 3 meters in height. The leaves are rough and conspicuously veined and not unlike a grape leaf.

NOOGOORA BURR as its name suggests produces a large 2.5cm long burr.

Whilst not really being a problem in the Ord Valley, if allowed to grow unchecked it could devastate the wool industry further south,.

It is declared a noxious weed in Western Australia and must be reported immediately on discovery.

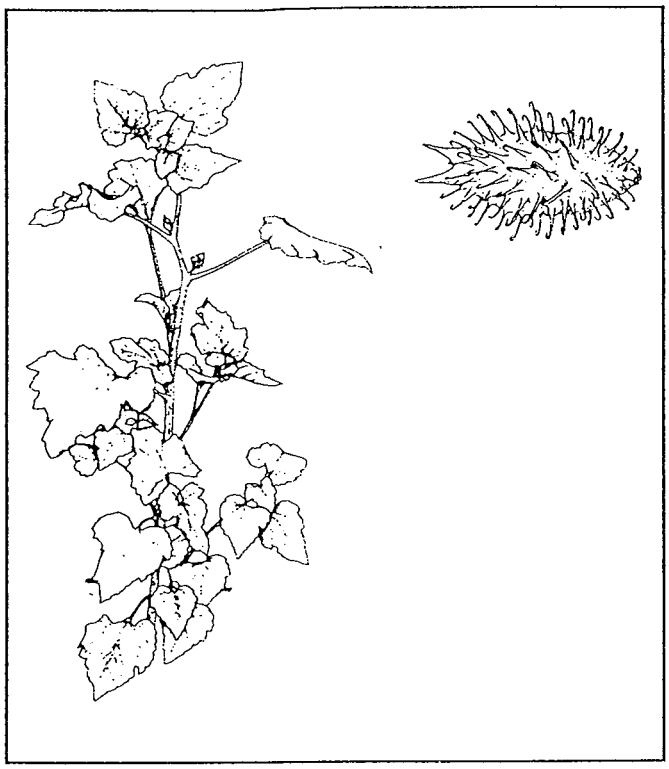

Figure 39 Noogoora Burr

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