

Seed Impurities of Grain... ...an identification kit

Introduction

The contamination of grain with weed seeds is important for a variety of reasons; some contain toxins, some are considered to be noxious, some are specified in State Stockfeed legislation, some detract from the overall appearance of the grain sample and others are listed in the receival standards of commodities handled and stored by state bulk handling organisations.

This comprehensive guide to the identification of weed seeds has been prepared for grain samplers, seed cleaning companies, stockfeed suppliers and all other agricultural workers involved in the assessment of grain.

How to use this booklet

In this guide seeds are ordered by shape and then size within the seed shape category.

The seed shape categories are:

- Round
- Oval
- Elongated
- Kidney
- Angular
- Spoon Shaped

The seed size is indicated by a vertical line alongside a diagram of a grain of wheat. This shows the comparative size of each seed.

Where seeds are referred to by more than one common name other names are listed. The scientific and common names of the seeds in the book are those used in the CSIRO, Handbook of Australian Weeds by M. Lazarides, K. Cowley and P. Hohnen, published 1997.

Seed pods are usually shown in photographs if the seeds in question are often found inside pods. Occasionally seeds are never released from pods, thus only the pods are shown in the photographs.

It should be noted that the identification of seed species is not always possible with the naked eye. Thus many of the photographs in the booklet have been magnified. The correct identification of many of these species will require the use of a magnification lens.

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Spiny Rush	Juncus acutus	6
Bellvine	Ipomoea plebeia	7
Bindweed (Field)	Convolvulus arvensis	8
Dock	Rumex spp.	9
Jute	Corchorus olitorius	10
Mintweed	Salvia reflexa	11
Smallflower Mallow	Malva parviflora	12
Tree Hogweed	Polygonum patulum	13
Knotweed	Polygonum aviculare	14
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Spiny Emex	Emex australis	22
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ELONGATED

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Common Sowthistle	<i>Sonchus oleraceus</i>	31
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Squirrel-tailed Fescue	<i>Vulpia bromoides</i>	33
Barley (Two row)	<i>Hordeum distichon</i>	34
Skeleton Weed	<i>Chondrilla juncea</i>	35
Brome (Soft)	<i>Bromus molliformis</i>	36
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Oats (Wild)	<i>Avena fatua</i>	38
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Oats (Sterile)	<i>Avena sterilis</i>	46
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Medic (Barrel)	Medicago truncatula	54
Rattlepods	Crotalaria spp.	55
Medic (Snail)	Medicago scutellata	56
Darling Pea	Swainsona spp.	57
Thornapple	Datura spp.	58
Poppy (Horned)	Glaucium flavum	59
Maltese Cockspur	Centaurea melitensis	60
Cowpea	Vigna unguiculata	61
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Barnyard Grass	<i>Echinochloa crus-galli</i>	70
Bathurst Burr	<i>Xanthium spinosum</i>	78
Beans (Faba)	<i>Vicia faba</i>	62
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Bindweed (Black)	<i>Fallopia convolvulus</i>	20
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Brome (Soft)	<i>Bromus molliformis</i>	36
Brome (Sterile)	<i>Bromus sterilis</i>	48
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Corn Gromwell	Bugglossoides arvensis	113
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Fescue	Festuca spp.	40
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Hoary Cress	Cardaria draba	71
Horehound	Marrubium vulgare	110
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Johnson Grass	Sorghum halepense	73
Jute	Corchorus olitorius	10
Khaki Weed	Alternanthera pungens	88
Knotweed	Polygonum aviculare	14
Lentils	Lens culinaris	106
Lesser Canary Grass	Phalaris minor	118
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Prickly Paddy melon	<i>Cucumis myriocarpus</i>	128
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Ragweed	<i>Ambrosia</i> spp.	15
Rattlepods	<i>Crotalaria</i> spp.	55
Rice (paddy)	<i>Oryza sativa</i>	77

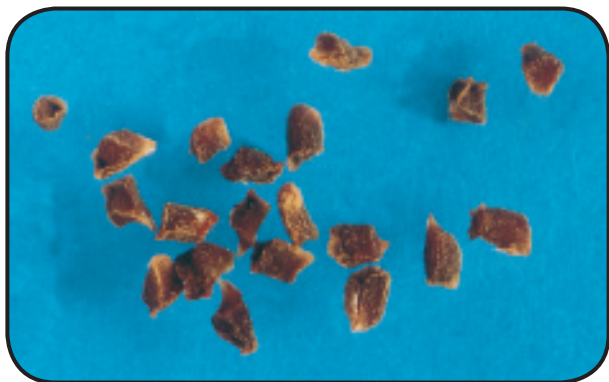
Weed Seed	Botanical Name	Page
Ryegrass	<i>Lolium</i> spp.	28
Safflower	<i>Carthamus tinctorius</i>	134
Saffron Thistle	<i>Carthamus lanatus</i>	23
Scotch Thistle	<i>Onopordum acanthium</i>	123
Sesbania Pea	<i>Sesbania Cannabina</i>	72
Skeleton Weed	<i>Chondrilla juncea</i>	35
Small Burrgrass	<i>Tragus australianus</i>	19
Smallflower Mallow	<i>Malva parviflora</i>	12
Sorghum (Grain)	<i>Sorghum bicolor</i>	102
Sorrel	<i>Acetosella vulgaris</i>	5
Soybean	<i>Glycine max</i>	108
Spear Thistle	<i>Cirsium vulgare</i>	29
Spiny Burrgrass	<i>Cenchrus incertus</i>	21
Spiny Emex	<i>Emex australis</i>	22
Spiny Rush	<i>Juncus acutus</i>	6
Squirrel-tailed Fescue	<i>Vulpia bromoides</i>	33
St. Johns Wort	<i>Hypericum perforatum</i>	63
Starburr	<i>Acanthospermum hispidum</i>	24
Sunflower	<i>Helianthus annuus</i>	135
Thistle (Variegated)	<i>Silybum marianum</i>	32
Thornapple	<i>Datura</i> spp.	58
Tree Hogweed	<i>Polygonum patulum</i>	13
Triticale	<i>Triticosecale</i> spp.	41
Turnip Weed	<i>Rapistrum rugosum</i>	93
Vetch (Common)	<i>Vicia sativa</i>	104
Ward's Weed	<i>Carrichtera annua</i>	103

Weed Seed	Botanical Name	Page
Wheat	Triticum aestivum	75
Wild Lettuce	Lactuca spp.	115
Wild Radish	Raphanus raphanistrum	94
Wild Sage	Salvia verbenaca	95
Wild Turnip	Brassica tournefortii	84
Wireweed	Polygonum arenastrum	16

Cape Tulip *Homeria* spp.



Angular



Seed Description

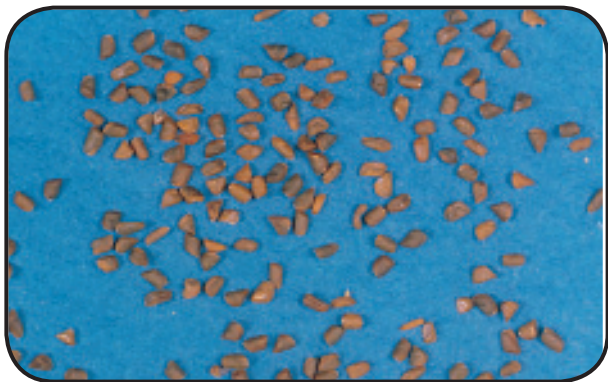
Seeds are formed in cylindrical capsules and appear dark brown. Two sides are flattened and one end tapers to a point.

Hedge Mustard

Sisymbrium officinale



Angular



Seed Description

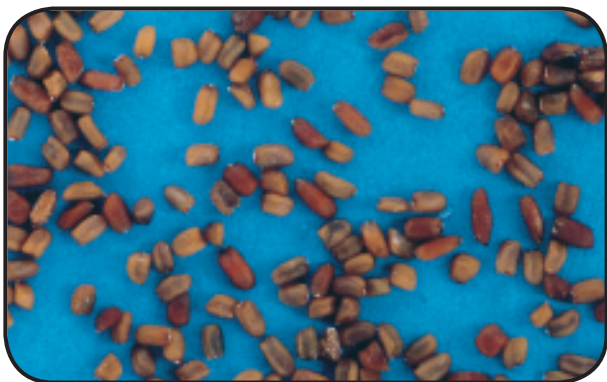
Seed is reddish brown in colour with a matt appearance.
Oval in shape with an angular appearance.

Indian Hedge Mustard

Sisymbrium orientale



Angular



Seed Description

Seeds contained in cylindrical pods, 6-12 cm long which may contain up to sixty seeds. Seeds are yellow-brown in colour, oblong shaped and compressed.

Loosetrife Lythrum spp.



Angular



Seed Description

The seed is an irregular shape, often angular, amber coloured and finely pitted, with longitudinal indentation along the surface. A papery coat partially covers the seed.

Sorrel

Acetosella vulgaris



Angular



Seed Description

Seed is round with tapering occurring at both ends giving the seed a triangular appearance when viewing from either end of the seed. Seed is brown in colour and dull in appearance.

Spiny Rush

Juncus acutus



Angular



Seed Description

Large dense clusters of capsules enclose the seeds. The seeds are brownish-red and angular with a shiny coat.

Bellvine

Ipomoea plebeia



Angular



Seed Description

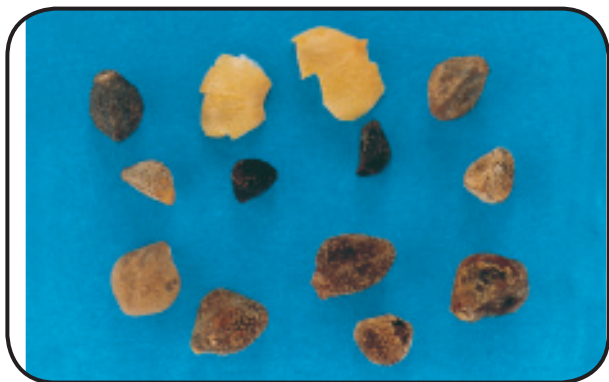
Seed is a dull brown to black colour with a finely pitted surface. The seed has two faces, one being rounded and the other being flat. Stiff hairs cover the edges of the seed and around the hilum.

Bindweed (Field)

Convolvulus arvensis



Angular



Seed Description

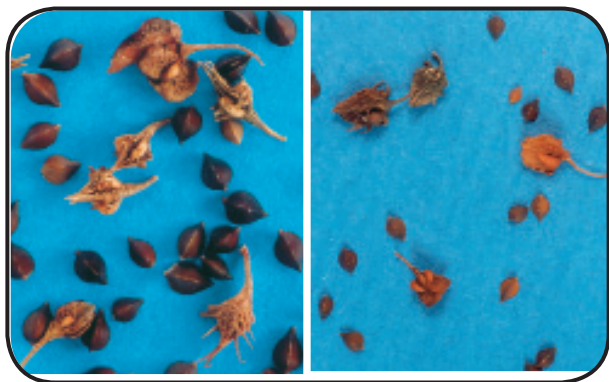
Seed is brown in colour and appears to have a granular surface. The seed is flattened on two faces, with a rounded back.

Dock

Rumex spp.



Angular



Seed Description

Seeds are often found in a small dry fruit; however, the seeds may be released. The seeds of various dock species are similar to each other, being triangular in cross section, smooth, glossy and reddish-brown in colour. The encapsulating seed coat is papery in appearance and of varying shapes depending upon species.

Jute

Corchorus olitorius



Angular



Seed Description

The seed is grey-black in colour with a matt appearance. Seed is angular, partially flattened and appearing triangular in outline. Numerous seeds are found in the five cells of the fruits.

Mintweed

Salvia reflexa



Angular



Seed Description

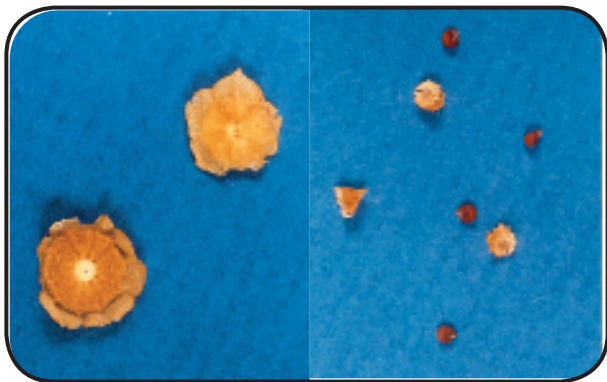
The seed is ovate, smooth, dull and yellow-grey to tan in colour, often contained in the granular fruit pod with longitudinal veins protruding from the surface, and tapered at both ends.

Smallflower Mallow

Malva parviflora



Angular



Seed Description

Seed is brown, round with an indentation at the hilum which is whitened. Capsules are papery and light brown-cream and shaped like a snail's shell. Up to nine or more individual capsules may be jointed to form a larger capsule.

Other Common Names
Marshmallow

Tree Hogweed

Polygonum patulum



Angular



Seed Description

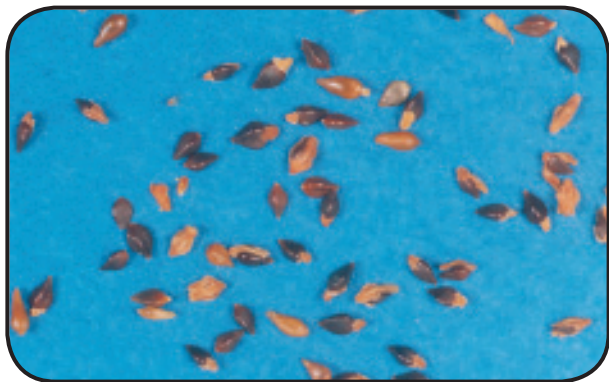
Seeds have three flat sides, are shiny and reddish-brown in colour. Part of the seed is often covered by a dry papery material.

Knotweed

Polygonum aviculare



Angular



Seed Description

Often the seed is found partially enclosed in a reddish papery perianth. The seed is glossy and reddish-brown to black, with three flat sides.

Other Common Names

Hogweed

Ragweed

Ambrosia spp.



Angular



Seed Description

Seed is brown and woody, with a central horn protruding from the base. The horn is encompassed by up to 8 smaller and shorter horns.

Wireweed

Polygonum arenastrum



Angular



Seed Description

Seed is generally reddish-brown, but may be black. Seed is angular and often a perianth partially encapsulates the seed.

Bindweed (Australian) *Convolvulus erubescens*



Angular



Seed Description

Seed is dark brown. The seed is rounded on the back and has two flat faces. The seed coat is not of a uniform colour, has veins running through the coat.

Onion Weed

Asphodelus fistulosus



Angular



Seed Description

These seeds are black and triangular with one curved side and two flattened sides. The surface is wrinkled and deep oval indentations along the three sides.

Small Burrgrass *Tragus australianus*



Angular



Seed Description

Spikelets are oval shaped with both ends tapering. They are yellow-brown and are covered with numerous small spines.

Other Common Names

Tickgrass

Bindweed (Black)

Fallopia convolvulus



Angular



Seed Description

Seed is three sided and black. Often a dull brown hull may be present, leaving only part of the seed surface exposed.

Spiny Burrgrass *Cenchrus incertus*



Angular



Seed Description

A cream coloured burr with numerous bristles. Burr contains one or more florets.

Spiny Emex

Emex australis



Angular



Seed Description

A three spined, hard, brown woody capsules contains the seeds. The capsule is covered with deep irregular indentations.

Other Common Names

Doublegee, Threecornered Jack

Saffron Thistle

Carthamus lanatus



Angular



Seed Description

Seed is wedge shaped with four angled sides, the broadest part of the seed is at the middle then tapers to a point. The seed bears pappus which are sharp and up to 1 centimetre long protruding from the crown. The seed is straw coloured, mottled with black or greyish-brown to dark brown markings.

Starburr

Acanthospermum hispidum



Angular



Seed Description

Seed is generally found enclosed in the wedge shaped yellow to dark brown burr. The surface of the burr is covered in short, hooked spines with two large spines at the ends.

Caltrop

Tribulus terrestris



Angular



Seed Description

A wood straw coloured brown burr with two to four sharp spines, encapsulating up to 5 light brown, egg shaped seeds. Often the woody burr does not release the seeds.

Other Common Names

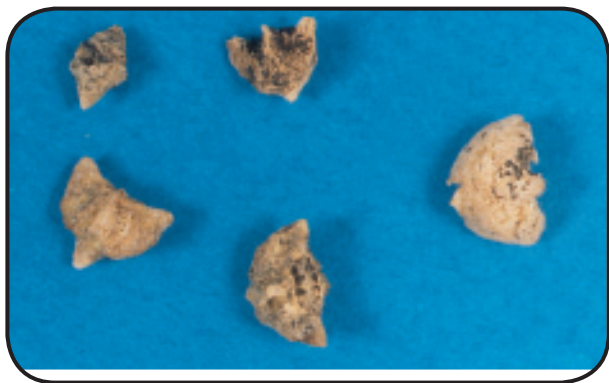
Cats-head, Bull Head

New Zealand Spinach

Tetragonia tetragonoides



Angular



Seed Description

Seed is in hard woody fruit, which appears dry and grey. The cone shaped fruit has up to 5 horns protruding.

Cocksfoot

Dactylis glomerata



Elongated



Seed Description

Seeds are pale and elongated with soft hairs on the keel. A short straight awn extends from the seed.

Other Common Names
Orchard Grass

Ryegrass

Lolium spp.



Elongated



Seed Description

Seed coloured varies according to the species. Awns which arise from the lemma of the seed distinguish ryegrass types although these are easily broken off. Wimmera ryegrass is purplish in colour, whilst other species may be cream.

Spear Thistle

Cirsium vulgare



Elongated



Seed Description

Seed is elongated and is broadest above the middle region, sides of seeds are curved and a distinctive collar with a knob like projection is present at the tip. Seed is grey with brown and yellowing streaks running longitudinally along the coat. A ring of bristles may be present around one end of the seed.

Cereal Rye

Secale cereale



Elongated



Seed Description

Seeds are wrinkled and light to dark brown. Seeds are wedge shaped with a flattened base.

Other Common Names

Rye Ryecorn

Common Sowthistle

Sonchus oleraceus



Elongated



Seed Description

Seed is flattened and sharp edged, with one side curved more than the other. Seed coat is reddish-brown with longitudinal ribs tapering towards the base. White, silky pappus are easily broken off.

Other Common Names

Mild Thistle

Thistle (Variegated)

Silybum marianum



Elongated



Seed Description

Seed is an egg shape and has a distinctive collar. Seed is not released from the fruit. Surface is smooth, and light greyish or yellowish-brown with copious longitudinal black streaks.

Squirrel-tailed Fescue

Vulpia bromoides



Elongated



Seed Description

This slender, cream to brown coloured seed has a long awn extending from one end. Often the awns break off when mature.

Other Common Names
Silvery Grass

Barley (Two row) *Hordeum distichon*



Elongated



Seed Description

Seeds cream, brightness will vary depending upon variety. Seeds are elongated and extremely uniform in shape. The awn is brittle and infrequently found attached to the husk adhering to the seed.

Skeleton Weed

Chondrilla juncea



Elongated



Seed Description

Seed is yellow and wedge shaped with ribs and grooves running longitudinally along the seed surface. A ring of bristles may be present above the ring of teeth-like projections

Brome (Soft)

Bromus molliformis



Elongated



Seed Description

Spikelet is up to 3.5 cm long including the awns. The lemma is elliptical in shape and the glumes have up to nine longitudinal ribs on the cream surface.

Barley (Six row) *Hordeum hexastichon*



Elongated



Seed Description

Seeds are of two different shapes, dependant upon where the seed was in the floret. Outside row seeds are bent, and inner are plump. The husk is attached to the seed and similar to *Hordeum distichon*, the awn is brittle and often broken off.

Oats (Wild)

Avena fatua



Elongated



Seed Description

Seeds are elongated and dark brown with longitudinal markings along the coat, often paler at the tips. Seed is tapered at the tips.

Other Common Names

Black Oats

Darnel

Lolium temulentum



Elongated



Seed Description

The floret is straw coloured, plump in appearance, with a long slender awn protruding from the apex.

Other Common Names
Bearded Ryegrass Drake

Fescue

Festuca spp.



Elongated



Seed Description

The seed is white, with a long awn protruding from the tip. The tip of the seed is narrow and turned to one side, generally occurring as an individual floret when mature.

Triticale

Triticosecale spp.



Elongated



Seed Description

Seeds are wrinkled and a dull pale brown colour. The seeds are elongated and always free of husks as seed is easily removed.

Prairie Grass

Bromus catharticus



Elongated



Seed Description

Seeds are a pale cream colour and elongated with pointed ends. The apex is covered with fine hairs. Sometimes the seeds are found in a floret, with awns being absent.

Barley Grass *Hordeum leporinum*



Elongated



Seed Description

Seed is identified by its long, hairy sharp awns which extend from the glumes. The centre awns are shorter than the outer awns. The seed may be green to cream, depending upon seed maturity.

Oats (Common)

Avena sativa



Elongated



Seed Description

Seeds are golden colour, which may be lighter at the tops. The seed is hairless and free of awns as they are easily removed. The seed is elongated in shape.

Other Common Names
Cultivated Oats

Oats (Sand)

Avena strigosa



Elongated



Seed Description

Seed is elongated with points at both ends and free of any hairs. Seed is brown with distinctive longitudinal stripes running along the seed.

Oats (Sterile)

Avena sterilis



Elongated



Seed Description

Glumes and bracts vary in colour from cream to dark brown and are covered by longitudinal ribs and shiny hairs.

Oats (Bearded)

Avena barbata



Elongated



Seed Description

Seeds are brown to cream, hairy curled and bent awns extending from the base.

Brome (Sterile)

Bromus sterilis



Elongated



Seed Description

Floret may be tinged purple and with fine, short hairs. Glumes are narrow and of unequal length. The lemmas are finely pointed and divided at the tip.

Brome (Great) *Bromus diandrus*



Elongated



Seed Description

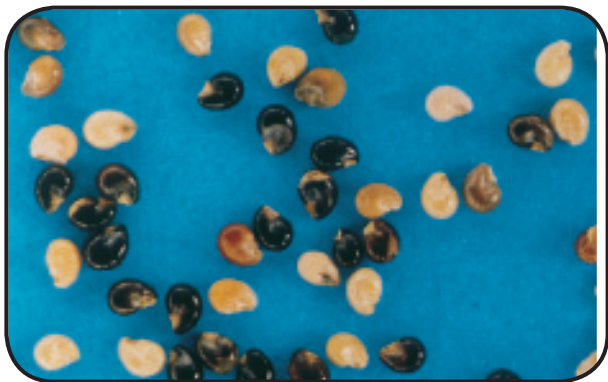
Seed is generally found as a straw coloured floret, or as a cluster of florets. The inner husk of the floret usually tapers into a long rough awn which is easily broken.

Cut-leaved Mignonette

Reseda lutea



Kidney



Seed Description

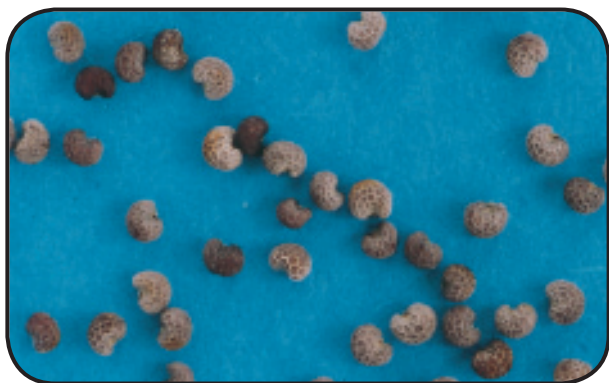
The seed is straw-coloured, sometimes appearing dark brown to black. The seed surface is shiny, and the hilum is cream coloured.

Poppy (Onion)

Papaver somniferum



Kidney



Seed Description

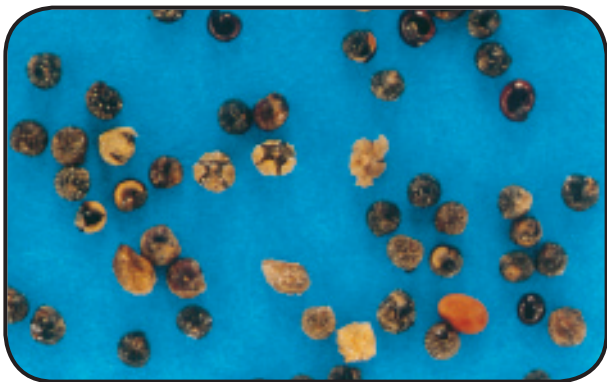
The kidney shaped seed may be white to dark brown in colour and the surface is covered with many regular shaped indentations.

Fat Hen

Chenopodium album



Kidney



Seed Description

The seed is small, glossy and black, and is often found enclosed in a papery case known as a pericarp.

Other Common Names

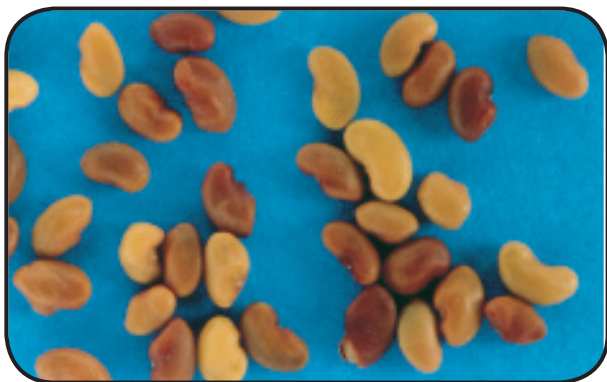
White Goosefoot

Lucerne

Medicago sativa



Kidney



Seed Description

Seed is tan to brown in colour, kidney shaped with a matt surface. Often seeds are found in a curled pod.

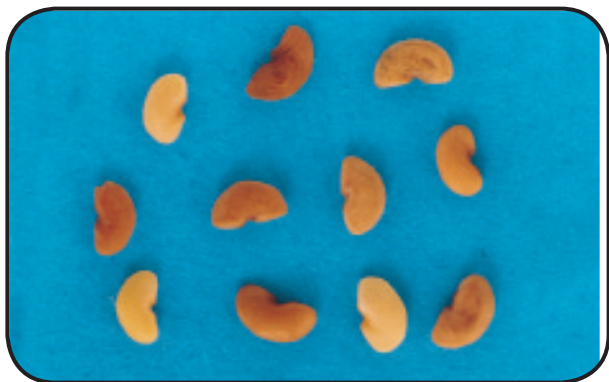
Other Common Names
Alfalfa

Medic (Barrel)

Medicago truncatula



Kidney



Seed Description

Seeds are kidney shaped and vary in colour from light brown to ark brown. Often seeds are found within barrel shaped seed pod, with 4 or 5 tight coils and spines protruding.

Rattlepods *Crotalaria* spp.



Kidney



Seed Description

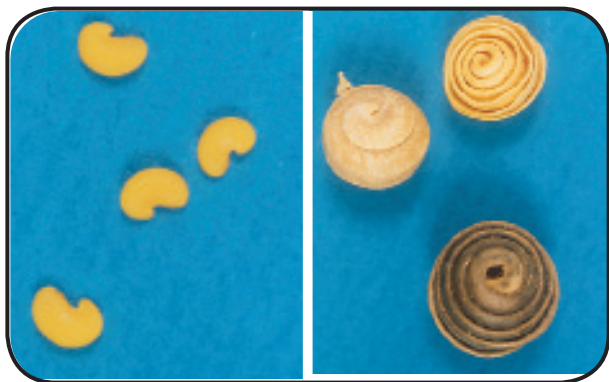
Seeds are kidney shaped, with one end being plumper than the other. Seeds vary in colour from cream to dark brown.

Medic (Snail)

Medicago scutellata



Kidney



Seed Description

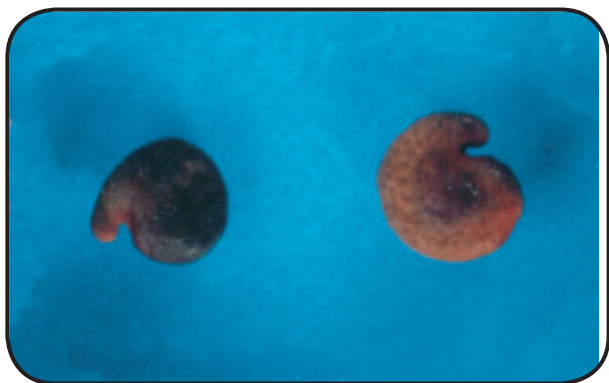
Seeds are yellow to brown, shiny, kidney shaped with one end a more definite hood. The seed pod varies in colour depending upon environment although is generally cream in colour and appears similar to a snail shell.

Other Common Names
Snail Trefoil

Darling Pea *Swainsona* spp.



Kidney



Seed Description

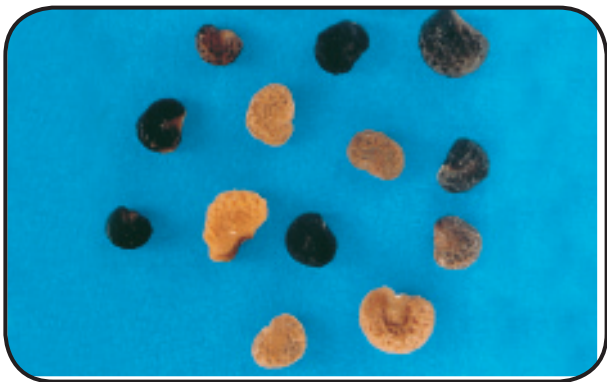
The seed coat is often light to dark brown in colour. The seed is flat and kidney shaped with a pitted surface.

Thornapple

Datura spp.



Kidney



Seed Description

Seed is kidney shaped with many indentations and pits, appearing pale brown in colour.

Other Common Names

False Caster Oil Plant

Poppy (Horned) *Glaucium flavum*



Kidney



Seed Description

Seeds are rounded on one end and the other end is pointed. The seed surface is brown and covered with regular short markings.

Maltese Cockspur *Centaurea melitensis*



Kidney



Seed Description

Seeds are brown to grey, with longitudinal ribs running along the seed. A pappus of bristles is present as is a hooked pointed at the other end of the seed.

Other Common Names

Cockspur Thistle, Malta Thistle

Cowpea

Vigna unguiculata



Kidney



Seed Description

Seed is kidney shaped to oval, with seed coat being reddish brown and smooth. The hilum is distinctive and a lighter colour than the rest of the seed coat.

Beans (Faba)

Vicia faba



Kidney



Seed Description

Seeds are green to brown depending upon maturity and variety. The hilum is black and the seed is oval with a smooth surface, sometimes with an indent in the centre. The seed coat may appear darkened if affected by disease.

St. Johns Wort

Hypericum perforatum



Oval



Seed Description

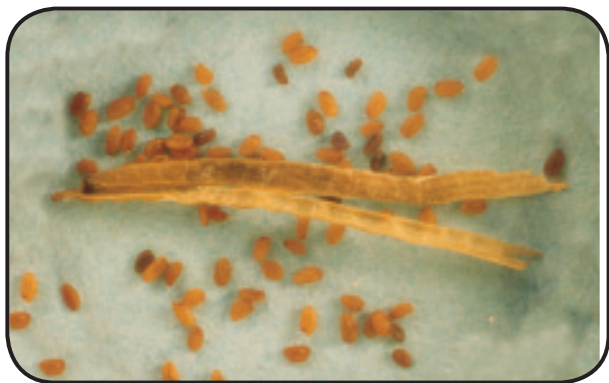
Seed is covered with many indentations and is light to dark brown. End of the seed is rounded, giving the entire seed a cylindrical appearance.

London Rocket

Sisymbrium irio



Oval



Seed Description

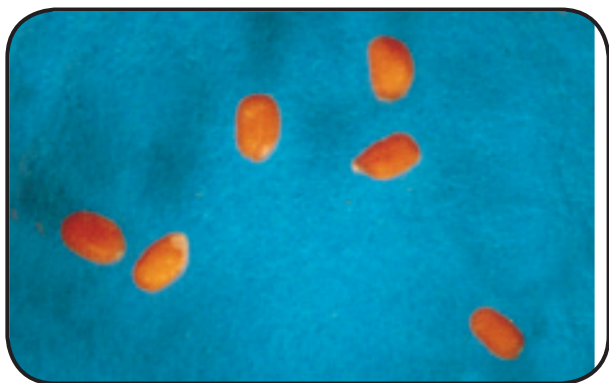
This seed is yellow, faintly pitted and has a glossy surface. The seed is oval in shape and compressed.

African Turnip Weed

Sisymbrium thellungii



Oval



Seed Description

Seed is small, brown, oval shaped and covered with a network of 'veins'. Yellow flowers of the plant form at the end of branches and form widely spreading pods up to 10 cm long and 2 mm wide. When mature the pods slit longitudinally into two halves and shed the seed.

Australian Carrot

Daucus glochidiatus



Oval



Seed Description

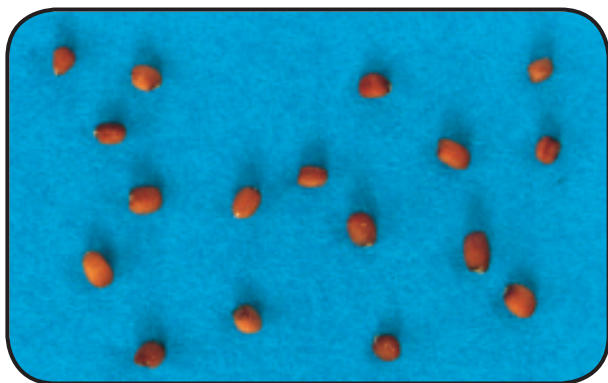
Seed is cream coloured, covered in spikes and tapers to a narrow point at one end. When mature the seeds split longitudinally.

Buchan Weed

Hirschfeldia incana



Oval



Seed Description

Seeds are tan colour and oval shaped with a white hilum which is sometimes darkened. A single seed is contained in a pod, the pods being 3-6 mm long and swollen at the base.

Giant Sensitive Tree

Mimosa pigra



Oval



Seed Description

Seeds appear a yellow to brown ochre colour, rounded and easily identified by a glossy surface. The seeds are contained within brown, rectangular pods which have a prickly surface.

Parthenium Weed

Parthenium hysterophorus



Oval



Seed Description

Seeds are generally encapsulated in groups of 4 in rough grey brown seed heads. Seeds appear black and rough without their seed coat. Surrounding the hilum are straw coloured appendages.

Other Common Names
Whitetop

Barnyard Grass

Echinochloa crus-galli



Oval



Seed Description

Seed is green to yellow, but sometimes brown. Pale hairs extend longitudinally along the seed, with a bristle and awn present at the tip.

Hoary Cress

Cardaria draba



Oval



Seed Description

Seeds are oval shaped and dark brown. The seed surface is slightly rough. The hilum is distinctively white and protrudes from the seed surface. Up to 2 seeds may be found in each heart shaped seed case.

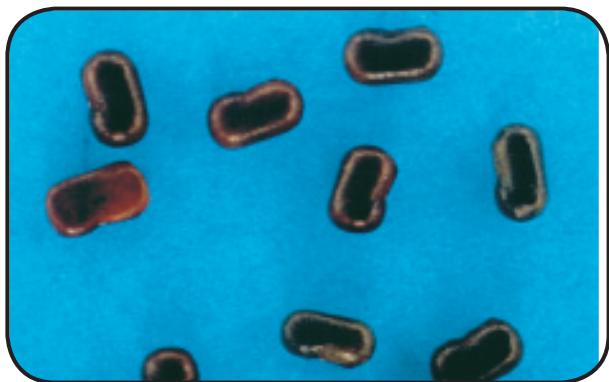
Other Common Names
White Weed

Sesbania Pea

Sesbania cannabina



Oval



Seed Description

Seed colour varies from green to brown, depending upon maturity. Seed is generally rectangular with rounded corners. The hilum is white with one darkened side.

Johnson Grass

Sorghum halepense



Oval



Seed Description

The seed is usually found enclosed in smooth, glossy, reddish-brown/black bracts. Seed is similar to that of Columbus Grass; however, the seed of Johnson Grass is shorter and thinner.

Colombus Grass *Sorghum alnum*



Oval



Seed Description

The seed is generally found enclosed within bracts, which are reddish-black and appear smooth and glossy.

Wheat

Triticum aestivum



Oval



Seed Description

Seeds are golden, but some lower protein varieties appear less glossy. Seeds are generally plump and oblong in shape with a crease on the underside.

Durum

Triticum durum



Oval



Seed Description

Seed is golden and appears vitreous, is oblong and may have fine bristles at the end. A crease is evident on the underside of the seed.

Rice (Paddy)

Oryza sativa



Oval



Seed Description

Seed is straw coloured with points at both ends, the seed coat is ribbed and the seed is oval in shape with slight tapering at both ends.

Bathurst Burr

Xanthium spinosum



Oval



Seed Description

A brown burr is covered with many equal length hooked barbs, and two unequal longer spines at one end.

Noogoora Burr

Xanthium strumarium



Oval



Seed Description

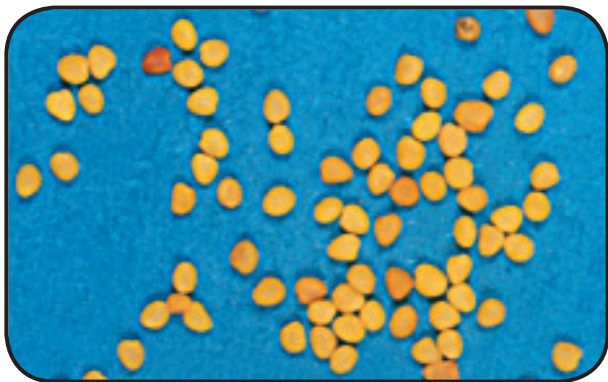
This seed has a brown coloured surface which is covered with hooked spines, and two horns at the apex.

Ball Clover

Trifolium glomeratum



Round



Seed Description

Seeds are yellow to pale brown in colour. Seed is round or spoon shaped, with the seeds being flattened. Seed surface is smooth.

Other Common Names
Clustered Clover

Charlock

Sinapis arvensis



Round



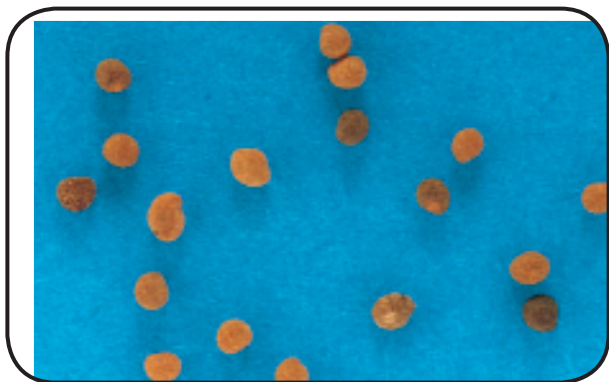
Seed Description

Seed is brown to blackish in colour and globular shaped with a small cone-shaped beak. The hilum of the seed is white. Pods contain 1-2 seeds and are contracted between them.

Dodder *Cuscuta* spp.



Round



Seed Description

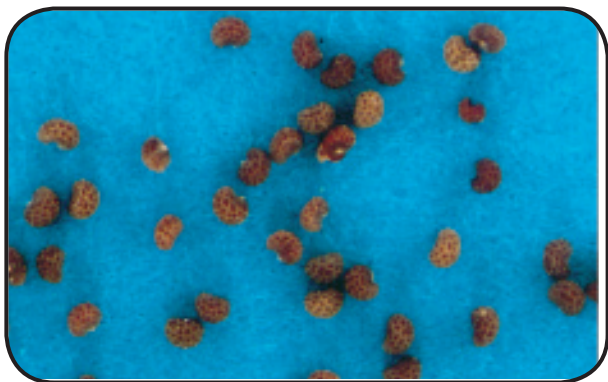
The seed is irregularly shaped and tan coloured. One side of the seed is rounded and the entire surface of the seed appears granular.

Long-headed Poppy

Papaver dubium



Round



Seed Description

Seeds are dark brown to black and kidney shaped. The surface of the seed is covered with a network of indentations.

Wild Turnip

Brassica tournefortii



Round



Seed Description

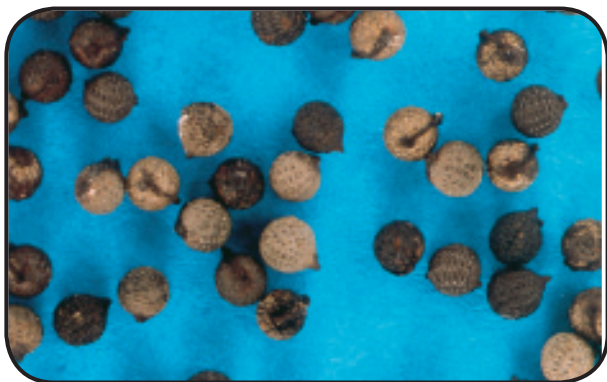
The surface of the seed is brown and covered with many veins which divide the surface of the seed. Single seeds are often found in hardened cream coloured seed pod which is deeply veined and round.

Other Common Names
Mediterranean Turnip

Poppy (Mexican) *Argemone ochroleuca*



Round



Seed Description

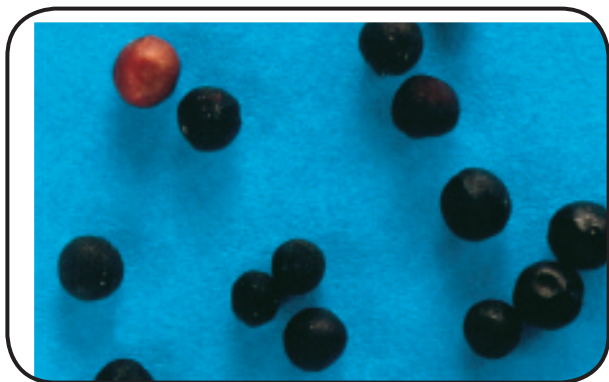
Seeds are brown or black, globular in shape and with a tiny pointed apex. The surface of the seed is covered with regularly shaped pits.

Bladder Soapwort

Vaccaria hispanica



Round



Seed Description

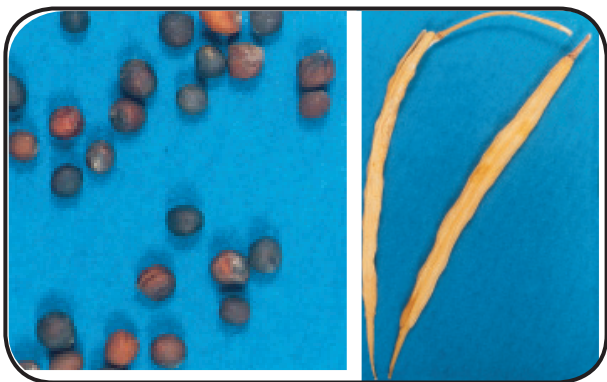
Seed is dark brown to black, rounded with a smooth surface, which is finely pitted with shallow indentations.

Canola

Brassica napus



Round



Seed Description

Seeds are round with a whitish hilum, seed colour may vary depending upon variety, but is generally a dull black to brown and has a slightly pitted surface. The seed pod is slender and long, up to 5 cm and is cream in colour.

Other Common Names

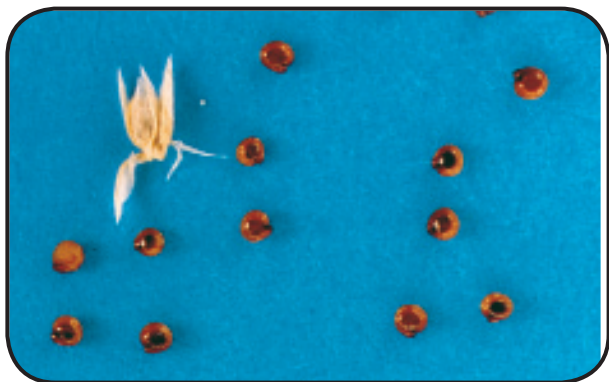
Rape, Rapeseed

Khaki Weed

Alternanthera pungens



Round



Seed Description

The seed is amber coloured, rounded and flattened laterally. The seed may be found enclosed within bracts which are straw coloured.

Millet (Japanese)

Echinochloa esculenta



Round



Seed Description

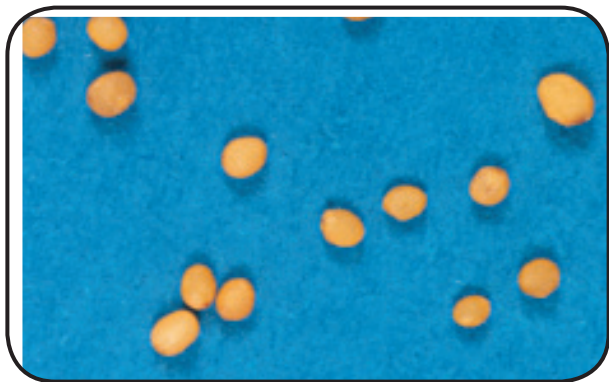
Seed is round with points at both ends of seed. The seed is glossy and cream to grey in colour. The seed is generally found covered in a papery coat which is easily removed.

Mustard

Sisymbrium spp.



Round



Seed Description

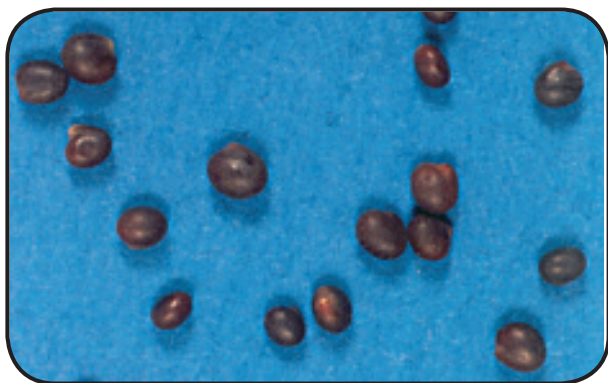
Seeds are round and golden to pale brown in colour. The seed coat is smooth with a light brown hilum present.

Subterranean Clover

Trifolium subterraneum



Round



Seed Description

Seed is round in shape with a light tapering at one point which creates a kidney shape. The surface is smooth and matt black in appearance. A white hilum is often visible.

Bedstraw (Three-horned) *Galium tricornutum*



Round



Seed Description

The seed is generally found within a dry, light to dark brown globular shaped fruit which has a dimpled surface and a hooked stem attached.

Other Common Names

Rough Corn

Turnip Weed

Rapistrum rugosum



Round



Seed Description

Seed is usually found enclosed within a woody, rough surfaced capsule. The seed itself is a brown colour, smooth and with a matt finish.

Other Common Names

Giant Mustard

Wild Radish

Raphanus raphanistrum



Round



Seed Description

Seed may be found free or within the seed pod. Pods are segmented, cream or grey and cylindrical and contain several seeds. Seeds are gold to brown and have a pitted surface.

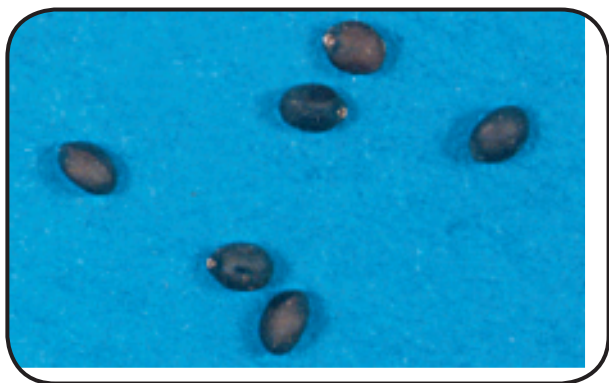
Other Common Names
Jointed Charlock

Wild Sage

Salvia verbenaca



Round



Seed Description

Seeds are dark brown with a dull surface. The seed is round with a slightly tapered point at one end.

Ball Mustard

Neslia paniculata



Round



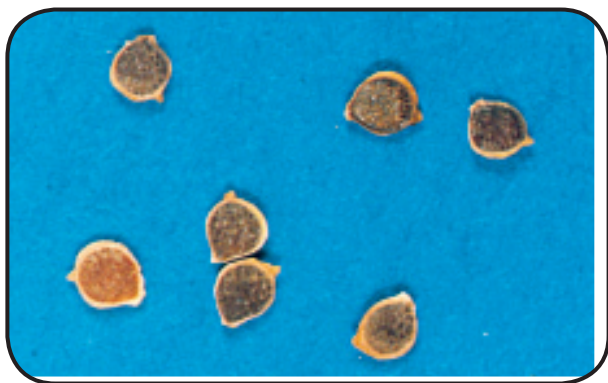
Seed Description

Seed is yellow to brown, depending upon maturity. A veined surface on a round seed with a short apical point. Often found in cream coloured pods at maturity.

Buttercup *Ranunculus* spp.



Round



Seed Description

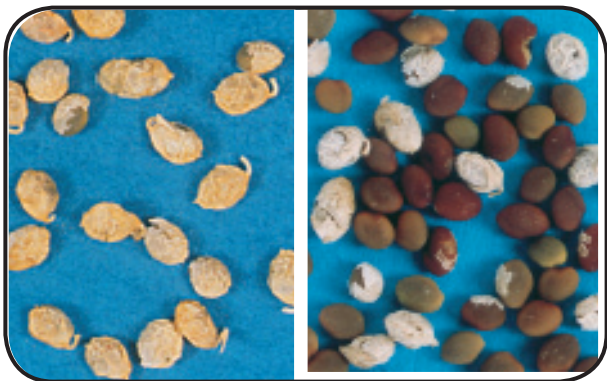
Seed is generally found inside pale flat brown fruits which appear pitted with a small hook at one end. The fruit has a distinctive pale border around the perimeter.

Hexham Scent

Melilotus indicus



Round



Seed Description

Seeds may appear olive-green or reddish-brown, with the seed coat having a pimply surface and a matt appearance. Often a grey and white perianth is still attached to the seed.

Other Common Names
King Island Melilot

Onion Grass

Romulea rosea



Round



Seed Description

Seeds are reddish brown and round with a smooth surface. Often found in a paper casing which holds a number of seeds in quadrants.

Bifora

Bifora testiculata



Round



Seed Description

Seed is rounded with a nose-like protuberance, including two small holes in the rounded side. One end of the seed is rounded and the other tapers to a short point. The seed surface is greyish-brown and is pitted with 3 longitudinal ridges.

Coriander

Coriandrum sativum



Round



Seed Description

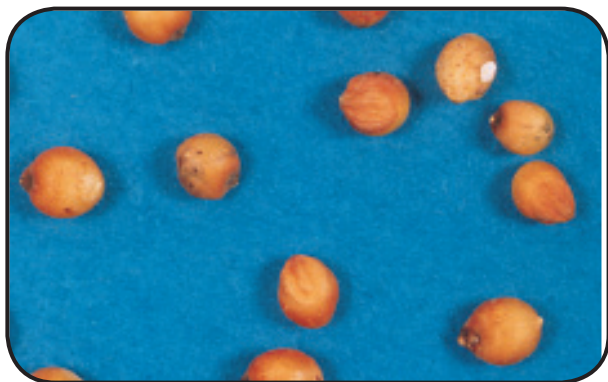
Seeds are a cream to brown colour, rounded with longitudinal indentations. The tip of the seed ends as a small point, and the base is flattened.

Sorghum (Grain)

Sorghum bicolor



Round



Seed Description

Seed is round with slight points at the ends, surface is smooth and reddish brown in colour sometimes with darker markings covering seed coat.

Ward's Weed

Carrichtera annua



Round



Seed Description

Seeds are generally found within a rounded seed pod. A flattened style extends from the centre of the pod, this may be as wide as the rounded part of the seed.

Vetch (Common)

Vicia sativa



Round



Seed Description

Seeds are round and seed coat colour varies between varieties, being brownish-grey to reddish-brown. When the seeds are split the centre colour also distinguishes between varieties, some are orange and others beige. Wild vetch seeds are smaller in size.

Other Common Names

Tares

Field Peas

Pisum sativum



Round



Seed Description

Seeds vary in colour from brown, green to white, generally with a smooth surface, occasionally with indents. Seed coat is brittle and the yellow or green centre is often shown. The hilum of the seed may sometimes be black but is generally light brown.

Lentils

Lens culinaris



Round



Seed Description

Seeds are found with a smooth surface and may be yellow or orange when split, depending upon variety. The seed coat will vary in colour from green, pale brown to dark brown. Seeds are round and flattened.

Pale Beautyheads

Calocephalus sonderi



Round



Seed Description

Flowerheads are bright yellow and made up of hundreds of florets. The flower head is soft and round.

Other Common Names
Yellow Poverty Weed

Soybean

Glycine max



Round



Seed Description

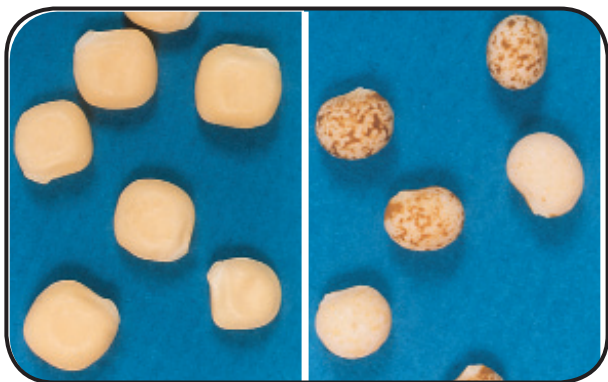
Seeds are round and cream coloured. The hilum is dark brown to black.

Lupin (White & Narrow Leaved)

Lupinus albus & *Lupinus angustifolius*



Round



Seed Description

White: Seeds are square and flattened. The surface is white and smooth with a hollow in the centre.

Narrow Leaved: Seeds are round with a smooth surface which is mottled with brown speckles, degree of mottling will vary, some seeds will appear nearly all cream.

Horehound

Marrubium vulgare



Spoon Shaped



Seed Description

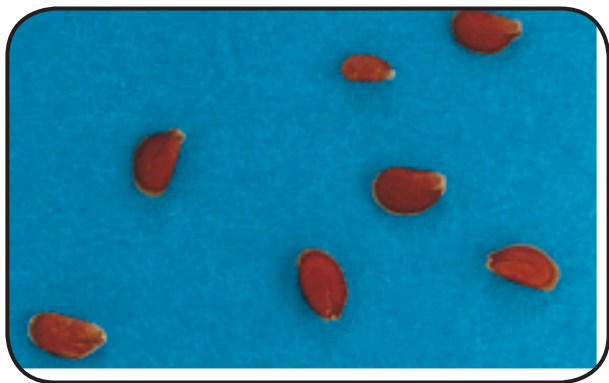
The seed appears black, sometimes speckled and with a matt finish. The base of the seed is rounded and the tip tapers to a point.

Peppercress

Lepidium spp.



Spoon Shaped



Seed Description

Seed is amber coloured with a matt finish. A distinctive light coloured rim appears as a narrow wing along the curved edge of the seed.

Amsinckia

Amsinckia spp.



Spoon Shaped



Seed Description

Seed is dull greyish-brown to dark-brown and covered with wart-like protuberances, angular with some rounding at one end and tapering to a point at the other.

Other Common Names

Yellow Burweed, Yellow Ironweed

Corn Gromwell

Bugglossoides arvensis



Spoon Shaped



Seed Description

This seed is covered with many indentations and is a cream to brown colour. The base of the seed is flattened and the tip narrows to a point.

Other Common Names

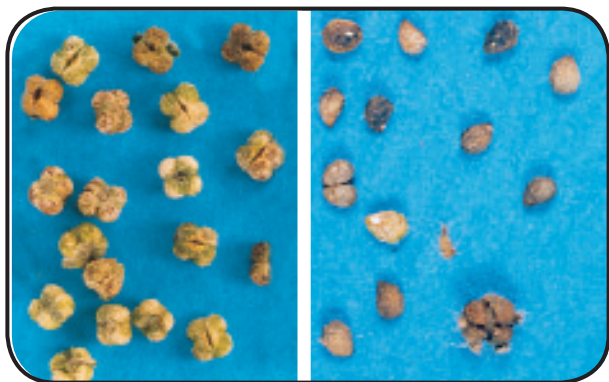
White Ironweed

Heliotrope (Common)

Heliotropium europaeum



Spoon Shaped



Seed Description

The seed is dark brown and is lens shaped in cross section. The seed fruit consists of 4 rough surfaced nutlets, which may appear brown or green depending upon maturity.

Wild Lettuce

Lactuca spp.



Spoon Shaped



Seed Description

Seed is contained within a smooth, flat fruit which is brown with a white collar. Fine hairs which are easily removed may be attached to the collar.

Paradoxa Grass

Phalaris paradoxa



Spoon Shaped



Seed Description

The seed is shiny and straw coloured, with two sterile lemmas attached to the base. Seeds are often contained within spikelets. Spikelets occurring in groups up to 6 sterile surrounding 1 fertile spikelet. Unlike Lesser Canary Grass, these seeds do not have fine hairs.

Phalaris

Phalaris aquatica



Spoon Shaped



Seed Description

Seed is hard and covered with fine hairs when immature and with maturity the seed becomes glossy. Two fertile lemmas are attached to the base of the seed.

Lesser Canary Grass

Phalaris minor



SpoonShaped



Seed Description

The seed is grey and shiny with hairs on the surface. It is similar to Paradoxa grass, but has only one sterile lemma attached to the base of the seed (Paradoxa Grass has two), and is slightly tear shaped.

Other Common Names
Annual Canary Grass

Prickly Sowthistle

Sonchus asper



Spoon Shaped



Seed Description

A single seed is contained within the fruit, which is reddish-brown and has longitudinal ribs. A ring of hairs can be found at the tip of the fruit.

Other Common Names
Rough Sowthistle

Creeping Knapweed

Acroptilon repens



Spoon Shaped



Seed Description

Seeds are curved and yellowish-grey with a brown collar from which long and lightly hairy bristles protrude. The seed coat is dull and covered with scattered faint longitudinal grooves. The bristles may not be attached when they are found in seed samples.

Other Common Names
Russian Knapweed

Crow Garlic

Allium vineale



Spoon Shaped



Seed Description

This seed is generally found enclosed in cream coloured, shiny bracts. The seed in the bract appears plump, and tapers to points at both ends.

Other Common Names

Wild Garlic

Hares Ear

Conringia orientalis



Spoon Shaped



Seed Description

Seed is spoon shaped and reddish-brown to dark brown in colour. Seed surface is smooth, with a single longitudinal indent along the seed.

Scotch Thistle

Onopordum acanthium



Spoon Shaped



Seed Description

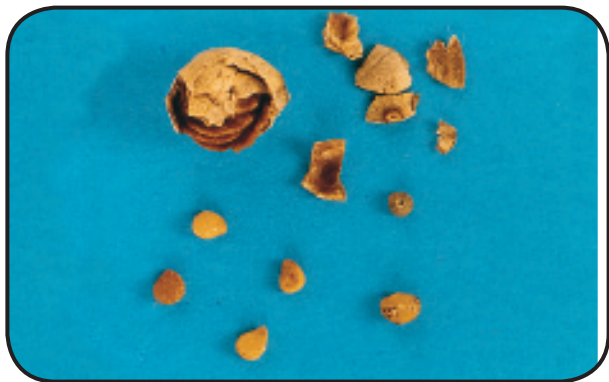
Seeds are ovate in outline, appearing cream with small dark brown markings. Seeds may be slightly curved and seed size varies with maturity.

Nightshades

Solanum spp.



Spoon Shaped



Seed Description

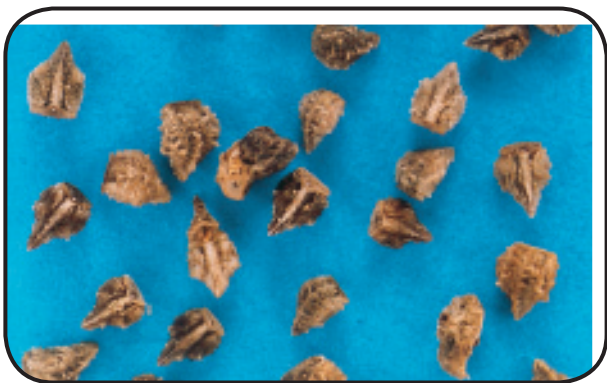
The seed is yellow or brown, flat and with a lightly pitted surface. Seeds are often found in black berries.

Paterson's Curse

Echium plantagineum



Spoon Shaped



Seed Description

Seed is dark brown and has a wood appearance, with two flat sides and one curved edge. The surface of the seed is rough and pitted and is greyish-brown to dark brown in colour.

Other Common Names
Salvation Jane

Castor Oil Plant

Ricinus communis



Spoon Shaped



Seed Description

Fruit is burr like, with spines covering the entire surface. Three smooth and mottled seeds are contained within the burr and are released upon maturity.

Linseed

Linum usitatissimum



Spoon Shaped



Seed Description

Seeds are spoon shaped and flat. The seed is glossy and reddish-brown in colour.

Other Common Names
Flax

Prickly Paddymelon

Cucumis myriocarpus



Spoon Shaped



Seed Description

Seed is oval shaped, with a round base and a slight tapering towards the tip. The seed surface is smooth and cream in colour.

Other Common Names
Gooseberry Cucumber

Colocynth

Citrullus colocynthis



Spoon Shaped



Seed Description

Seed is straw coloured with a smooth surface, rounded at one end and tapered to a point at the other.

Musk Weed

Myagrum perfoliatum



Spoon Shaped



Seed Description

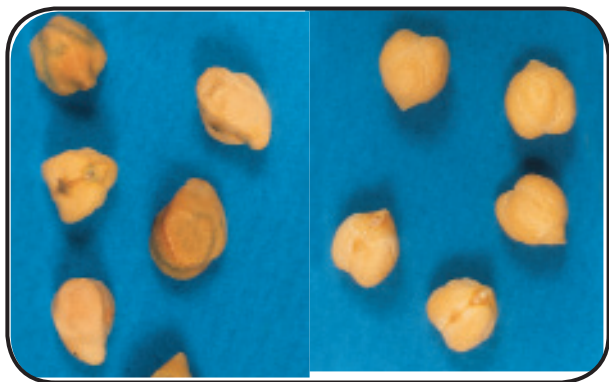
Seed case is spoon shaped and contains two seeds. The seed case is hard and cream to reddish in colour. Longitudinal ribs run along the seed case, a small point protrudes from the case.

Chickpea (Desi & Kabuli)

Cicer arietinum



Spoon Shaped



Seed Description

DesiType: Seeds are spoon shaped with distinctive edge between the seed faces. The seed may be brown to a beige colour with a deeply wrinkled surface.

KabuliType: Seeds are spoon shaped with less distinctive edges between the seed faces than the Desi type. Seeds are cream to white and the surface is smooth in comparison with the Desi type, with only light pitting of the surface.

Corn

Zea mays



Spoon Shaped



Seed Description

Seed is golden and flat wedge shaped, the hilum is white and large.

Other Common Names

Maize

Cottonseed

Gossypium hirsutum



Spoon Shaped



Seed Description

Seeds may be entirely covered with soft cotton or may be free of cotton and appear brown. The seed is oval shaped, with slight tapering at one end.

Safflower

Carthamus tinctorius



Spoon Shaped



Seed Description

Seeds are spoon shaped with longitudinal ribs running along the seed. Seeds are whitish in colour with brown markings on some varieties.

Sunflower

Helianthus annas



Spoon Shaped



Seed Description

Seeds are white with slight darkening of the tips. Both ends of the seed taper, with the base being broader than the tip.

Glossary

Apex	the narrow or pointed terminal end of the seed
Awns	an appendage which is often present in grasses extending from the tip
Bracts	a paper structure, appearing like a leaf which surrounds individual flowers or an inflorescence
Crown	the highest point of a curved or arched object
Dorsal	the underside of a seed
Elliptical	oval shaped, with both ends tapering equally
Floret	an individual flower occurring in a cluster of flowers
Fruit	develops from mature ovary, when mature containing seeds
Hilum	a mark on seed which indicates the point of attachment to pod
Husk	the outer covering adhering to seeds
Lemma	the lower two bracts of an individual floret (grass only)
Nutlets	a number of fruits joined, containing one seed each

Ovate	shape similar to that of an egg, being broader at one end
Pericarp	the outer walls of fruit
Spikelet	inflorescence comprises of a cluster of flowers which arise from one main stem
spp.	abbreviations of word species
Style	the elongated part of the female parts of a plant, extending from ovary
Ventral	the upper side of a seed

Bibliography

Contained within this bibliography are a number of texts which provide additional details on weed seeds and their plants. These include:

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