



Local Land
Services

Weeds in hay and grain

Is there something new on
your farm?



ACKNOWLEDGEMENTS

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Callen Thompson and Jodie Lawler.

Department of Primary Industries, Weed Wise, Tony Cook, Sarah Baker, Dr Suzanne Bochma, Department of Primary Industries Qld, Vic, NT, ACT, WA and Tas.

Disclaimer: The information contained in this publication is based on knowledge and understanding at the time of writing February 2020. However, because of advances in knowledge, users are reminded of the need to ensure that information upon which they rely is up to date and to check currency of the information with the appropriate officer of Local Land Services or the user's independent adviser.

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IS THERE SOMETHING NEW ON YOUR FARM?

Seasonal conditions have seen trucks carting hay and grain into the central west from all over the country. After rain is a good time to get out and identify what weeds are coming up in areas that fodder has been fed out or stored.

The current environmental conditions have dictated the need to bring in fodder to feed livestock and there is a very good chance that some of the hay brought in has weeds in it. It is important to monitor areas where fodder has been used so you can identify and control any weed incursions quickly so they do not have an economic impact on you or your neighbours. There is support available from both Local Land Services and regional councils to assist producers to identify weeds and provide tactics for control.

Our recommendation is **Identify - Control - Monitor**.

IDENTIFY

Knowing where your hay has come from, having a vendor's declaration and looking for weeds in the hay as you feed it out will give you an idea of what to look out for. If you see anything unusual contact your agronomist, your local council weeds officer or your LLS Biosecurity Officer/Ag Advisor or bring in samples of plants or seeds. If you suspect herbicide resistant weeds have entered your property speak to LLS Ag Advisory staff or your agronomist about getting them tested.

Some of the weeds of concern are described below, but there are many more. **Remember if it is something unusual, get it identified!** (Weed information has been sourced from NSW WeedWise unless otherwise referenced)

MONITOR

Hopefully all producers have a farm biosecurity plan, which included limiting the area that hay is spread and marking feed out and storage areas on a farm map. If this has been done, it makes it a lot easier to get out and monitor these areas for weeds. It is also important to monitor paddocks that stock have had access to, as some seed can be viable after traveling through the digestive system. Using confined feeding or a sacrifice paddock makes this much easier.

While you are looking for weeds, check roadways where fodder has been carted as well as waterways and timbered areas as feral and native animals may be helping themselves to your introduced fodder.

Lastly, if you know that your neighbour has been feeding stock it might be advisable to check your fencelines. Ideally you should monitor for weeds 12 days after a seasonal break rainfall event and you should continue doing this for at least two years.

CONTROL

Weeds such as Parthenium weed or Gamba Grass are notifiable to the Department of Primary Industries (DPI) on 1800 680 244. DPI will assist you in eradicating these weeds. DPI's WeedWise website (<http://weeds.dpi.nsw.gov.au>) or download the app on your phone, allows you to search for a weed and look up your duty in regards to biosecurity.

If you have identified weeds that are new to your property, control them early to prevent seed set. If practical, manually remove weeds (avoid contact with Parthenium weed). In cases where weeds are flowering and beginning to set seed, please remove weeds and place in a secured area for burning to ensure any seed is destroyed. If chemical control is warranted, speak to your agronomist or advisor and always follow the label directions. It is important to re-inspect the area (and surrounding areas) to make sure all weeds are controlled. Make this a regular practice, as a certain proportion of seed will stay dormant over several years, depending on weed species. Some weed seeds may persist for a 2-3 years (annual Ryegrass, Fireweed and Parthenium weed) and others are likely persist for much longer, e.g. >10 years (Wild Radish).



POSSIBLE DISEASES OF CONCERN

PASTURE DIEBACK



Why is it a problem?	There is a high risk it could be imported from Queensland to New South Wales through affected fodder. It can affect C4 grasses causing reduced growth and then death.
Scientific name	
State it is found	Queensland
Type of grasses it could be found in	Digit, Rhodes, Bambatsi panic and forage sorghum
Herbicide resistance	
Description	First sign of the disease is yellowing and reddening/purpling of leaves, starting at the tip and spreading along the leaf blade. It appears to spread by wind and moves quickly along major roads.

POSSIBLE WEEDS OF CONCERN

ANNUAL RYEGRASS



Annual Ryegrass flowering.

Why is it a problem?	Populations from WA, SA and Vic have high levels of herbicide resistance. If these populations were introduced into NSW they would be difficult to control in winter cropping systems
Scientific name	<i>Lolium rigidum</i>
State it is found	Widespread in NSW but populations from WA, SA and Vic have higher levels of herbicide resistance. Herbicide resistance is present in NSW and care should be taken when buying any hay with the potential to have ryegrass seed in it.
Type of hay it could be found in	Legume, cereal, rye, pasture or canola hay and Winter grain crops
Herbicide resistance	Group M, A, B, D, J, C, Q and L
Description	Rye grass has a narrow inflorescence of numerous small spikelets, 4-18 mm long, which are arranged alternately up the inflorescence. The leaves are shiny on one side and dull on the other.

BEDSTRAW (DAFWA)



Source: DPIRD, WA

Why is it a problem?	Weed of cultivated land and disturbed areas. Seed can contaminate grain samples. Difficult to control in legume crops.
Scientific name	<i>Galium tricornutum</i>
State it is found	South Australia, Victoria and Western Australia
Type of hay it could be found in	Legume and cereal hay and grain
Herbicide resistance	B
Description	Small white flower on short branches, stems covered in short downward pointing prickles. Stems are 50 to 100cms long.

BIFORA (TASMANIA DPIPWE)



Source: Tasmania DPIPWE

Why is it a problem?	Weed of field crops and tolerant to many common herbicides used in winter cropping systems
Scientific name	<i>Bifora testiculata</i>
State it is found	South Australia - Eyre Peninsula, Lower Flinders area, Mid North and Yorke Peninsula
Type of hay it could be found in	Legume and cereal hay and grain
Herbicide resistance	Naturally tolerates many common herbicides
Description	Annual hairless herb, 20-30 cm tall, with striped stems, finely divided leaves and strongly smelling of coriander

BLACK KNAPWEED



Source: NSW DPI WeedWise

Why is it a problem?	Black Knap weed is unpalatable and is a strong competitor in pastures. It will reduce carrying capacity. PROHIBITED MATTER: If you see this plant report it. Call the NSW DPI Biosecurity Helpline 1800 680 244
Scientific name	<i>Centaurea X moncktonii</i>
State it is found	Victoria
Type of hay it could be found in	Legume, cereal, rye, pasture or canola hay
Herbicide resistance	N/A
Description	Black Knapweed is a spineless thistle that grows up to one metre in height with a solitary seed head at the end of each branch. The seed head is 15mm in diameter with purple florets.

BRANCHED BROOMRAPE



Source: NSW DPI WeedWise

Why is it a problem?	Broomrapes pose a serious threat to broadleaf grain and vegetable industries. Once established, broomrapes can reduce crop yields by up to 70%, threaten export markets and be extremely difficult to eradicate. PROHIBITED MATTER: If you see this plant report it. Call the NSW DPI Biosecurity Helpline 1800 680 244
Scientific name	<i>Orobanche species</i>
State it is found	Isolated infestation in the Murray Bridge area of South Australia
Type of hay it could be found in	Legume, cereal or canola hay or grain
Herbicide resistance	N/A
Description	Broomrapes are parasitic plants that are among the world's worst crop weeds, they attach to the roots of broadleaf plants and extract all of their nutrient and water requirements from their host. Host plants include canola, capeweed, vetch and medics. Broomrapes contain no chlorophyll and only the flowering stem can be seen above the ground.

CAPE TULIPS



Source: NSW DPI WeedWise

Why is it a problem?	Weeds of pastures and cereal crops which are toxic to livestock and humans
Scientific name	<i>Moraea miniata</i> and <i>Moraea flaccida</i>
State it is found	New South Wales, Victoria, South Australia and Western Australia
Type of hay it could be found in	Pasture and cereal hay
Herbicide resistance	N/A
Description	Cape tulips belong to the iris family, they are perennial herbs growing between 30 and 60 cm high. Flowers are usually orange to salmon pink in colour with a yellow centre. They have 6 petals and occur in clusters at the end of branches.

FIREWEED



Source: NSW DPI WeedWise

Why is it a problem?	Weed of pastures which is toxic to livestock
Scientific name	<i>Senecio madagascariensis</i>
State it is found	East coast of Australia from Victoria to central Queensland. Fireweed is also found on the southern and northern tablelands of NSW
Type of hay it could be found in	Pasture hay
Herbicide resistance	N/A
Description	Fireweed plants are 10–60 cm tall with yellow daisy like flowers. Most fireweed is low growing, with many branches. You can see most stages of the plant (seedlings to flowering) at almost all times of the year. Flushes of seedlings appear after rain in warm weather.

GAMBA GRASS (NT DPIR/DENR)



Gamba grass inflorescence. Source: Northern Territory DPIR

Why is it a problem?	Gamba grass was introduced as a pasture species and while it is palatable when it is young, its fast growing nature and poor feed quality as it matures makes it difficult to manage and it will quickly become rank and unpalatable. Gamba is an environmental weed and will quickly establish in natural areas. It then becomes a fire risk. Gamba grass could be a considerable threat to ecosystems like the Maquarie Marshes. PROHIBITED MATTER: If you see this plant report it. Call the NSW DPI Biosecurity Helpline 1800 680 244
Scientific name	<i>Andropogon gayanus</i>
State it is found	Darwin, Katherine and Douglas Daly regions of the NT
Type of hay it could be found in	Jarra Grass
Herbicide resistance	N/A
Description	Gamba grass is tropical species that grows in dense stands up to 4m high

GRADER GRASS (NT DENR)



Source: Northern Territory DENR

Why is it a problem?	Weed of pasture and environmental areas
Scientific name	<i>Themeda quadrivalvis</i>
State it is found	Northern Queensland, northern Western Australia and the Northern Territory
Type of hay it could be found in	Jarra grass, Rhodes grass and forage sorghum
Herbicide resistance	N/A
Description	Very similar to kangaroo grass. Grader grass grows up to two meters tall, and is golden when mature while kangaroo grass is one meter tall and brown when mature

PARTHENIUM WEED



Parthenium Weed rosette stage. Source: NSW DPI WeedWise.

Why is it a problem?	Parthenium weed adversely affects human and animal health and can cause: <ul style="list-style-type: none">• respiratory problems• severe dermatitis• tainted meat if stock eat the plant within one month of slaughter• tainted milk. <p>PROHIBITED MATTER: If you see this plant report it. Call the NSW DPI Biosecurity Helpline 1800 680 244</p>
Scientific name	<i>Parthenium hysterophorus</i>
State it is found	Endemic to central Queensland and is spreading into southern Queensland
Type of hay it could be found in	Rhodes grass Forage sorghum
Herbicide resistance	N/A
Description	Parthenium weed is an annual plant with a deep taproot and an erect main stem. The weed usually grows to a height of 1–1.5m although it can grow to 2 m high.

ST JOHNS WORT



St. John's Wort. Source: NSW DPI WeedWise

Why is it a problem?	Competes with pastures, poisons livestock, can downgrade wool with 'vegetable fault', can reduce property value
Scientific name	<i>Hypericum perforatum</i>
State it is found	New South Wales, Victoria, South Australia and Western Australia
Type of hay it could be found in	Pasture and cereal hay
Herbicide resistance	N/A
Description	Has a yellow flower with five petals, flowers from November to January, dark green, brown and yellow from February to April, brownish-red in winter.

TROPICAL SODA APPLE



Tropical Soda Apple. Source: Bec Miller

Why is it a problem?	It is poisonous to humans and the foliage if unpalatable to stock, however stock will eat the fruit, spreading the seed. Thorny thickets restrict access of stock to shade and water.
Scientific name	<i>Solanum viarum</i>
State it is found	Coastal regions of NSW and Queensland. Infestations have been discovered in the Namoi and Boarder Rivers-Gwydir catchments associated with movement of cattle from infested coastal areas. It invades open to semi shaded areas particularly pastures and riparian zones, but also forest, roadsides, recreational areas and horticultural and cropping areas.
Type of hay it could be found in	Pasture and cereal hay. The risk of cattle coming back from agistment spreading the seed is high.
Herbicide resistance	N/A
Description	Tropical soda apple is an upright, branching, perennial shrub growing to 2 m in height. It has broad-based, straight, cream-coloured prickles to 12 mm long scattered on most plant parts. Mature fruit are yellow and golf ball-size.

WILD RADISH



Flowering wild radish.

Why is it a problem?	Populations from WA and SA have high levels of herbicide resistance. If these populations were introduced into NSW they would be difficult to control in winter cropping systems
Scientific name	<i>Raphanus raphanistrum</i>
State it is found	Currently in NSW but populations from WA and SA have high levels of herbicide resistance
Type of hay it could be found in	Legume, cereal, rye, pasture or canola hay and winter grain crops
Herbicide resistance	Group I, B, C, M and F
Description	Wild radish is an upright herbaceous plant usually growing 40-100 cm tall. Distinguished from turnip weed by purple veins on flower petals and hair on mature leaves.

POSSIBLE PESTS OF CONCERN

FIRE ANTS



Why is it a problem?	Red imported fire ants pose a significant agricultural and environmental biosecurity risk. They are aggressive, highly adaptive and well-equipped for survival in Australian conditions.
Scientific name	<i>Solenopsis invicta</i>
State it is found	All states
Type of hay they could be found in	All types
Herbicide resistance	N/A
Description	Fire ants are quite small (2-6mm) and come in an unusual variety of sizes within one nest. Their heads and bodies are coppery-brown and their abdomens are darker. They are aggressive, particularly near the nest, and can inflict painful stings.



LLS staff looking for gamba grass in jarra grass hay from the Northern Territory. After speaking to the NT grower that supplied this hay we learnt that he has stringent protocols in place to ensure his hay does not have weeds in it. Photo: Jill Kelly



Local Land
Services

For more information
contact Local Land Services
on **1300 795 299** or enquire
with your local council
weeds officer.