GRASS SPECIES IDENTIFICATION FOR HORSE OWNERS

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KIKUYU

IDENTIFICATION:

Creeping, perennial, hairy, mat-forming grass with very long stolon's that root frequently and occasionally climbing to 2+ m when supported by other plants.

Also has long rhizomes. Soft, drooping, bright green to yellow-green leaves (5-40 x 3-9 cm) are alternate, sparsely hairy above and below, have folded blades and a fringe of hairs around the leaf where it wraps around the stem.

Pale green to white sheath has soft hairs (2-4 mm).

Seed heads are made up of 2-3 tiny spikelet's in upper leaf sheaths, and wispy anthers and stigmas that protrude from leaves.

POTENTIAL ISSUES:

Kikuyu grass is what is known as an Oxalate grass. There are several grasses containing oxalates in varying levels. Kikuyu is considered a high oxalate level grass.

Oxalates = strong acid compounds found in some plants such as kikuyu, these substances can impede proper absorption of calcium.

Oxalates bind calcium in the gastrointestinal tract of the horse, thereby prohibiting its uptake into the bloodstream and its subsequent use throughout the body. As calcium levels in the blood drop, hormones initiate reabsorption of calcium from the skeleton.

This reallocation of calcium allows the muscular and nervous systems to function unhampered but only at the considerable expense of the skeletal system.

Low bioavailable forms of calcium such as Dolomite (an insoluble natural mineral mix of calcium and magnesium carbonate) is not effectively absorbed from the small intestine of horses and provides no worthwhile protection against the effects of horses grazing oxalate grasses. Organic or chelated (bioavailable) forms of calcium offer the best protection.

Kikuyu is also very susceptible to spikes in potassium content when short, lush growth appears following rain after a period of drought. Horse owners should be extremely careful in these situations regarding the health and behaviour of their horses.

YORKSHIRE FOG

IDENTIFICATION:

Seed-head a distinctively shaped panicle with short branches; structure of spikelets is similar to oats. Usually two florets per spikelet, with a short-hooked awn arising from the back of the lemma.

Short hairs on leaf blade and sheath numerous and easily visible; soft to touch and sometimes known as "velvet grass", leaves tear easily; veins at the base of the leaf sheath distinctly purple with white colour between, giving a "striped pyjama" pattern.

Yorkshire Fog is a common perennial non-endophyte, horse-friendly grass that thrives in wet, infertile, acid soils.

It is a very dense, hairy grass that can become dominant and unpalatable if not kept under control.

Horses do not really like to eat it but it is ideal for planting as part of a mix for horses that tend to be over-weight.

When cut as hay it needs plenty of drying so it does not become musty. Seed can be purchased for resowing and is a good option where less nutritious pasture is needed.

PLANTAIN

IDENTIFICATION

The broadleaf weed or plant is considered safe for horses but they do not really like it. It survives in over-grazed situations and sometimes is the only plant in hard grazed areas of pastures.

POTENTIAL ISSUES

It can be high in problem sugars so is unsuitable for metabolic or laminitic horses.

However, has many herbal properties such as the leaves can be made into a tea or tincture, and this is said to help with indigestion, heartburn and ulcers when taking internally.

Its natural antibacterial and anti-inflammatory properties make it great for speeding recover of wounds, and for itching or pain associated with skin problems.

CATS EAR = FALSE DANDELION

IDENTIFICATION

Distinguished by a rosette of basal leaves that appear rough and bristly thanks to a coating of stiff hairs on the leaf.

The leaves can reach 20-30cm in length and are irregularly lobed.

Yellow flowers growing from thin stalk that sometimes resemble a dandelion flower. Break the stem and it secretes a milky residue.

POTENTIAL ISSUES

Horses affected by stringhalt have a peculiar action during which one or both hind legs are abruptly snatched up and held abnormally high.

In New Zealand, the condition often affects both hind legs and is associated with nerve damage.

The condition begins suddenly, usually in late summer or autumn, and may affect the horse so badly that it is unable to move.

Stringhalt has been associated with horses grazing pasture containing large amounts of flatweed, Hypochaeris radicata (pictured) but experimental studies have not shown conclusive evidence for a link between ingestion of this plant and stringhalt (anecdotal client feedback does).

Horses seem to be particularly vulnerable to flatweed that has been stressed either by drought or insect damage.

CLOVER

IDENTIFICATION

White clover cultivars are classed on leaf size, with large-leaved cultivars generally more productive, but medium-leaved having a higher growing point density making them more persistent.

Red clover is a short lived (typically 2-4 years), tap rooted legume most commonly sown in summer dry areas where summer grazing is less intensive. In intensive grazing systems red clover typically does not perform or persist well.

Clover's energy, protein and fiber content make it a good feed source for many horses.

POTENTIAL ISSUES

As Clover is very high in protein, starch, potassium and hormones this can negatively affect some horses.

Starch levels can be extremely high rendering it unsuitable metabolic and laminitic horses if in higher levels in pasture.

Phytoestrogens or isoflavones are estrogen-like compounds found in legumes such as clover and can have the potential to cause endocrine dysregulation and reproductive effects such as infertility.

TIMOTHY GRASS

IDENTIFICATION

Seed heads: Dense cylindrical spikes growing to 15cm in length.

Timothy is a perennial non-endophyte, horse-friendly grass that grows in late spring and early summer and has low drought tolerance.

It generally grows well in the Australia and in the South Island of New Zealand but can be planted in cooler inland area of the North Island.

It provides high quality pasture and hay and is also grown as a chaff crop.

SWEET VERNAL

IDENTIFICATION

Has a sweet smell which comes from the coumarin, a naturally occurring chemical found in many plants, but in excess has a bitter taste which most likely is to deter animals from grazing on it.

POTENTIAL ISSUES

It can be an appetite suppressant.

It is very common in pasture and generally horses consume it without problems.

Though…if the plant becomes mouldy, certain fungi will convert the coumarin into dicoumarol, a substance that inhibits normal blood clotting.

Dicoumarol substance was responsible for the bleeding disease known historically as "sweet clover disease" in cattle eating mouldy sweet clover silage.

Check if your hay or pasture contains Sweet Vernal and do not feed if it has any sign of being mouldy.

ENDOPHYTE AND ANNUAL RYEGRASS

IDENTIFICATION

Smooth, silky leaves with a crease mark down the middle, an almost rounded leaf toward the top, and seeds placed opposite one another in one row in the seed head.

POTENTIAL ISSUES:

Having Ryegrass in your horses' pasture can be problematic to many (but not all). Sometimes we just can't do anything about it but we need to be aware of what to look out for and what can go wrong.

The stems and seeds of rye grass contain a fungus known as an Endophyte.

This fungus lives off the sugars and nutrients produced by the rye grass. This fungus does not affect the growth of the grass neither does it perform a service to the plant.

The endophyte does however effect livestock and horses. It produces a mycotoxin called Lolitrem B which can negatively affect horses causing staggers.

Ryegrass Toxin induced staggers:

Ryegrass staggers is a nerve and muscle disorder that causes horses to tremble. symptoms can range from low grade symptoms that seem unrelated such as spooking and shying, excessive sweating, itchiness, skin allergies, muscle trembling, motor dysfunction, ataxia.

Ryegrass mineral imbalance issues:

Modern ryegrasses have been developed to suit modern agriculture but are low in fibre and produce far too much sugar for horses.

Excess sugar affects the gut fauna and flora and can lead to laminitis. Rye grass can become very minerally imbalanced. It has an ability to uptake considerable amounts of potassium far more than the horse's requirements.

Symptoms of this are tightness and tenseness of muscles, flinching and sensitivity to being brushed or touch, erratic "crazy" behaviour, spooking, etc. Horses effected by ryegrass can be given a mineral clay structure-based toxin binder, but pasture contamination may be too great.

PRAIRIE GRASS

IDENTIFICATION

Prairie Grass is one of the brome family of grasses.

Studies conducted in New Zealand by AgResearch in the mid 90's concluded that this grass is the horse's favourite.

In many ways this is a good thing as it is non-endophyte but it is reasonably high in sugar and does lack persistence when sown in pasture.

Grazing brome and Smooth brome have better persistence in pasture and so would be a better addition to a mix for resowing.

KENTUCKY BLUE GRASS

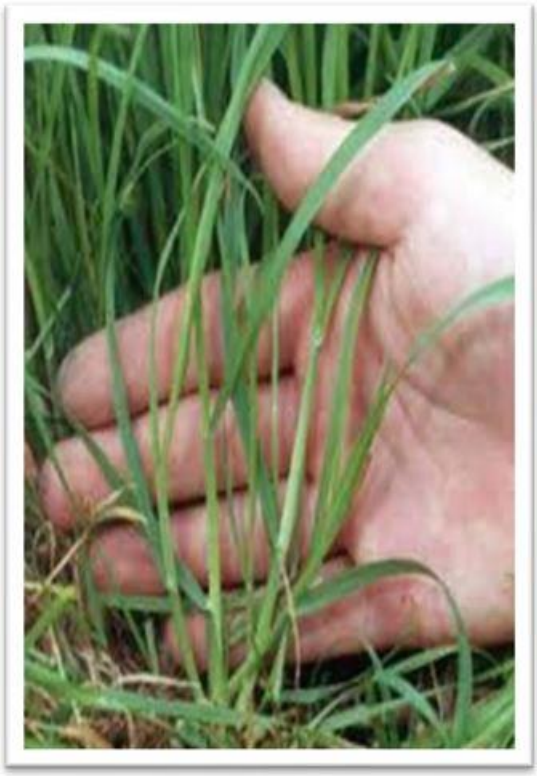
IDENTIFICATION

Regarded by some as a weed grass, because of its low quality, but for horse owners it is a very useful addition to pasture. It is non-endophyte and horse friendly.

It persists well in low-fertility soil, dominating unimproved hill and upland pastures, or poorly managed lowland pastures.

Its quality can be improved with fertilizer. Its fine, dull leaves densely cover the ground and tend to smother clover growth which is a good thing.

COCKSFOOT



IDENTIFICATION

Horse-friendly grasses that grow well over dry summer months. Original varieties grow clumpy while newer types are less invasive and do not clump. Enjoyed by horses. Good levels of protein. Makes excellent hay.

BROWN TOP

IDENTIFCATION

Feathery seed head summer.

Regarded by some as a weed grass, because of its low quality, but for horse owners it is a very useful addition to pasture.

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Its quality can be improved with fertilizer.

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DANDELION

IDENTIFICATION

In general, the leaves are 5–25 cm long or longer, simple, lobed, and form a basal rosette above the central taproot.

The flower heads are yellow to orange coloured, and are open in the daytime, but closed at night. The heads are borne singly on a hollow stem (scape) that is usually leafless and rises 1–10 cm or more above the leaves.

Stems and leaves exude a white, milky latex when broken. A rosette may produce several flowering stems at a time.

The flower heads are 2–5 cm in diameter and consist entirely of ray florets.

The flower heads mature into spherical seed heads sometimes called blowballs containing many single-seeded fruits called achenes.

Each achene is attached to a pappus of fine hair-like material which enables windaided dispersal over long distances.

Potential natural benefits:

Dandelion roots and leaves are traditionally used for kidney, liver and digestive complaints.

They can be useful as a liver tonic to support cleansing and elimination of waste from the body, as a digestive tonic to promote the appetite and improve digestion, and for supporting pancreatitis when under veterinary supervision.

They are also a mild laxative.

Dandelion roots and leaves are best known for their diuretic properties, and, as they contain Magnesium, Calcium and Potassium, they are often the herb of choice for supporting the kidneys when a diuretic action is required.

SMOOTH SOW THISTLE

IDENTIFICATION

Of the Asteraceae family, it starts life as a rosette, then bolts to form an upright flower stem.

Sow thistle is an annual weed which can establish at any time of the year.

Sow thistle has quite a succulent stem when it flowers, and the foliage oozes a milky sap when cut.

Can grow up to 1m tall.

Potential natural benefits:

Sow thistle has small amounts of calcium, potassium, iron, phosphorous and vitamin C.

It also contains phytochemicals such as flavones, stilbenes, polyphenols and glycosides that exhibit anti-inflammatory, anti-tumour properties.

BUTTERCUP

IDENTIFICATION

A bright yellow annual, biennial, or perennial flower, Buttercups are a large genus of flowering plants called Ranunculus. It has yellow, shiny petals, and grows wild in many places.

They often have leaves in a rosette at the base of the stem.

The hermaphrodite flowers are single or in a cyme, have usually five (but occasionally as few as three or as many as seven) mostly green sepals and usually five yellow, greenish or white petals that are sometimes flushed with red, purple or pink.

POTENTIAL ISSUES

Often regarded as invasive weeds. It can cause serious problems in horses that eat it as they graze.

The leaves and stems of many species of buttercup contain ranunculin, a glycoside that forms the toxic blistering agent protoanemonin when the plant is chewed or crushed. This bitter-tasting oil irritates the lining of the horse's mouth and digestive tract. Owners may notice blisters on the horse's lips, swelling of facial tissue, excessive salivation, mild colic, and diarrhea that might contain blood.

Decreased appetite and a slowed pulse may also be present.

In severe cases, buttercup ingestion can lead to skin twitching, paralysis, convulsions, and death.

Affected horses can display hemorrhaging and congestion in the lungs on postmortem examination. Cattle, goats, and pigs are also susceptible to the toxin.

PASPALUM

IDENTIFICATION

Paspalum is a grass weed which has very short stout rhizomes, which join plants together to form dense clumps.

Sticky seed heads.

POSSIBLE ISSUES

A perennial problem weed and difficult to eradicate.

Can be the cause of Paspalum Staggers. Can cause incoordination from eating paspalum grasses (Paspalum spp) infested by Claviceps paspali.

Toxic infestations are most likely after humid, wet summers.

The yellow-gray sclerotia, which mature in the seed heads in autumn, are round, roughened, and 2–4 mm in diameter.

Ingestion of sclerotia causes nervous signs in cattle most commonly, but horses and sheep also are susceptible.

The toxicity is not ascribed to ergot alkaloids; the toxic principles are thought to be paspalinine and paspalitrem A and B, tremorgenic compounds from the sclerotia.