

# Pasture Improvement Overview and Key Steps

Updated February 2022



**GREENLINE**  
PREMIUM PROPERTY CARE



## Pasture Improvement Objectives

**The overall objectives of a pasture management plan are to ensure healthy soils and pastures over the short and long term, while maximising the lifestyle and productivity potential of the property.**

Specifically, pasture improvement aims to achieve the following outcomes:

-  Elimination of weeds and problem grasses
-  Pasture rejuvenation and increased pasture health to:
  - Provide increased available feed for animals
  - Reduce likelihood of weeds increasing
  - Reduce risk of erosion
-  Maintain and improve soil health
-  Long term sustainable grass cover
-  Ensure health and wellness of animals
-  Improve visual appeal of the property and paddocks

At Greenline, we specialise in regenerative approaches that build on the natural soil and work with the seasons and the weather cycle, while minimising or eliminating the use of chemicals and artificial treatments.





## Improving Pasture Health and Condition

Pasture and soil health will naturally degrade over time, meaning improvement activities are required from time to time.

Improving pastures and eliminating weed is best tackled in a multi-year approach of:

-  Balancing soil conditions to promote grass growth and reduce weed growth
-  Adding lime to maintain a neutral pH (if required)
-  Knocking down weeds early in their growth cycle
-  Preventing weeds from flowering or going to seed
-  Creating strong grass pastures to crowd out and out-compete weeds
-  Supporting healthy pasture growth with fertiliser to maintain ground cover
-  Maintaining topsoil health and condition to improve water retention through aeration



### Common Issues with Soil Condition

Soil is what gives our grass and pastures life. Where soil conditions have deteriorated, it can be difficult to impossible to create sustainable and strong pastures.

There are three frequently encountered issues with soil condition, particularly on properties with a history of keeping heavy stock (horses and cattle, and to some extent sheep and alpacas).

Firstly, the surface layers may be compacted, meaning the top layers of the soil are very hard and compressed. This compaction can make it more difficult for new grass to grow and for roots to penetrate, and also means rain falls are more likely to run off rather than penetrate into the ground. Compacted soils are also more favourable for weed and moss growth.

Secondly, the soil can be lacking in some organic matter and nutrients. Soils in our area are generally a clay-loam type, which generally ensures nutrient and water retention is good, however it is common for testing to indicate that soil could benefit from structural improvement.

This structural improvement can be achieved through building up more humus and organic matter. This can be addressed through the establishment of increased grass cover, by adding organic material, and/or by adding fertiliser.

Organise materials, humus and nutrients can be increased by activities such as:

- Planting additional grass pastures to allow the roots of the grasses to improve the soil condition naturally, and the grass itself to become soil at the end of its growing cycle.
- Where possible, harrowing manure to spread and dry it, and allow it to go back into the ground (while providing sufficient time and rotation to avoid issues with worms in large animals).
- Leaving left-over hay in the paddocks (spread out), allowing it to degrade and go back into the ground.

Aeration of the soil also assists with improving organic matter content and soil biology (by allowing increased oxygen and moisture into the soil profile for subterranean life). Aeration involves punching holes and cracking the ground (around 200mm deep) to allow water and oxygen to penetrate the soil profile. Aeration does not disturb the soil surface or impact the existing grass, it simply creates small holes and cracks in the ground. Aeration is used to help moisture, nutrients and oxygen reach deeper into the soil profile, but will not assist in reducing the compaction as quickly as cultivation.

Thirdly, the soil pH (a measure of acidity) may be below the ideal range, and therefore the soils are slightly acidic. Soils in our area are naturally acidic and can continue to move more acidic over time unless lime is used to reduce the acidity, particularly when livestock are on the land.

Some acidity (pH 5.4-6) is tolerable for most grass types, however when the pH drops below 5.4 a variety of imbalances (notably aluminium content) start to accelerate, preventing root growth and restricting the ability of the grass to uptake nutrients. As the measured pH approaches 5.4, it is also likely that the acidity in lower soil levels (5-15cm) is increasing and proving detrimental to soil and grass health.

Lime is typically added to pastures to correct an acidity issue, and then about every three to five years, in order to maintain the surface soil pH in the ideal range of 6 to 7 (which in turn helps maintain pH above 5.4 through the entire deeper soil profile).

### **Weed Management**

Weeds tend to grow best on bare ground, in stressed/compacted soils, or in areas that are wet for extended periods. Then as weeds grow they shade the ground and absorb nutrients/water which further reduces grass growth, leading to a cycle that degrades grass coverage over time.

Weeds also generally prefer acidic or saline soil conditions (lower pH), whereas grass prefers less acidic conditions (pH between 6 and 7). Acidic soil conditions not only inhibit grass and clover growth, but create imbalances in key mineral/metal levels, particularly components like aluminium which builds up in acidic soils and restricts plant root growth.

Likewise, addition of targeted fertilisers will preferentially provide growth stimulation to grass instead of weeds. Maintaining a balance and supply of key nutrients like nitrogen, phosphorous and potassium is important to provide enough food for healthy growth.

Fertilisers of various types, and natural nutrient building methods (manures, composts, clovers, legumes) can be used to achieve and maintain healthy soils.

Strong grass growth and grass cover is the natural regenerative way to prevent weed spread.

### General Pasture Rejuvenation Steps

Pasture rejuvenation is general undertaken with the following steps. The exact requirements at each step, and which ones are used, will depend on the specific short- and long-term objectives of the property, and the current condition of the soil and grasses.

1. Sample and test soil to identify current conditions impacting grass growth – i.e. compaction, structure, organic/humus content, pH, nutrient levels, salinity.
2. If the soil is acidic, add lime to raise the soil pH into the ideal range. Where clay content is problematic, add gypsum to improve soil structure.
3. Lightly cultivate or aerate topsoil (50-100mm deep) to reduce compaction, improve moisture retention, and improve the penetration of water, roots, oxygen and nutrients.
4. Prior to sowing new pasture grass seeds, treat the area with herbicide to reduce the competition from weeds. Either spray a selective herbicide which only kills the weeds and leaves the grass that is already there; or spray a non-selective herbicide (like RoundUp) which kills everything and creates a blank paddock for planting the new pastures.
5. If pastures are in very poor condition, initially sow a fast-growing annual pasture to create a strong ground cover, suitable for grazing, and which can help build soil health and reduce weeds. An annual pasture will grow very quickly during autumn and spring, helping crowd out weeds, but will only last 1-2 years at most. The annual pasture usually used is an Italian Annual Ryegrass with addition of deep-rooted legumes to assist in soil development (i.e. Lucerne, clover). Starter fertiliser is added at the time of sowing.
6. If pastures and soil are in reasonable condition, then sow a permanent perennial pasture. Also sow a perennial pasture the following year if an annual pasture is sown initially for immediate improvement. The perennial pasture regrows each year, and therefore becomes the permanent grass in the pasture, lasting at least 7-10 years before needing reseeding. Perennial pasture grasses include our custom blends perennial rye grasses, cocksfoot, fescue, phalaris and clovers. Rye-free, horse-safe, and native grass blends are also available.

7. Manage weeds with selective herbicide application at the appropriate time in the weed growth cycle (from autumn onwards for winter broadleaf weeds such as capeweed, and during summer for sedge, docks, blackberry, flatweed etc). Weeds will emerge following cultivation and seeding, so will likely require treatment a few weeks after sowing the new pasture seeds.
8. Add fertiliser to improve soil nutrients and growth productivity. Fertiliser is usually applied in autumn and/or in spring to boost grass growth. Fertiliser (DAP) is also added with seed at the time of planting to encourage strong germination.

In order from most cost-effective (i.e. cheapest option first), the following options can be selected (individually or in a combined plan) to create quick and sustainable improvements:

1. Weed control with selective herbicides and/or mechanical control (i.e. mowing)
2. Adding fertilisers seasonally
3. Aeration of the soil
4. Spreading lime to improve soil pH (reduce acidity) – this is actually very important as grass simply will not grow well in acidic soils. While lime is usually only required every 3-5 years, it can be expensive compared to other options due to the cost and quantity of lime required.
5. Oversowing grass seeds amongst the existing grasses
6. Pasture rejuvenation as outline on the previous page – “rejuvenation” involves keeping what grass is currently there and sowing new grasses amongst it.
7. Full pasture renovation (as outlined on the previous page) – “renovation” involves killing off everything in the paddock and going back to bare earth to prepare the soil bed and plant new grasses.



Following an initial establishment phase, the following ongoing maintenance program is recommended:

| Timing  | Activity  |
|---|---|
| <b>Spring</b><br>(Start of September to Mid-November)   | <ul style="list-style-type: none"> <li> Fertilise</li> <li> Aerate and/or roll any pugged or water-logged pastures</li> <li> Mulch in spring grass for grass health and to provide organic matter back to the soil</li> </ul>  |
| <b>Early summer</b><br>(Mid-November to End of January) | <ul style="list-style-type: none"> <li> Mow long grass for fire season requirements</li> <li> Test soil condition and pH</li> </ul>   |
| <b>Late Summer</b><br>(February and March)              | <ul style="list-style-type: none"> <li> Weed control – any summer weeds, depending on rainfall</li> <li> Spread lime if required based on soil tests (roughly every 3-5 years)</li> <li> Manage animal movements to prevent the development of bare patches</li> </ul>   |
| <b>Autumn</b><br>(April and May)                        | <ul style="list-style-type: none"> <li> Aerate and fertilise paddocks</li> <li> Sow pasture grass seeds – oversow amongst existing grass or spray off areas totally and plant new pastures</li> <li> Spread hay on bare patches</li> <li> Weed control for capeweed early in the season before it grows to large</li> </ul> |
| <b>Early Winter</b><br>(Start of June to Mid-July)      | <ul style="list-style-type: none"> <li> Weed control – capeweed and other broadleaf weeds. Spray capeweed when it is still small – it comes up following the first autumn rains (“the autumn break”)</li> </ul>  |
| <b>Late Winter</b><br>(Mid-July to End of August)       | <ul style="list-style-type: none"> <li> Stay warm and dry!</li> <li> In wet winters, manage animal movements to prevent pugging of soils.</li> </ul>  |





## Key Activities

We have expertise in delivering the following professional services on an as-needs or ongoing basis. We are also pleased to provide fixed quotes for specific projects.

|  | Timing                                   | Activity   |
|--|--|--|
| <b>Weed control</b><br>           | All year (depending on weeds targeted)   | Selective weed spray of weeds to knock down weeds and prevent them competing with grass. Or total eradication spraying to kill all growth prior to reseeding a paddock.  |
| <b>Pasture sowing</b><br>         | Apr - Jun                                | Over-sowing existing grass or planting grass on bare ground, includes: <ul style="list-style-type: none"> <li>• Cultivation if required (50-100mm) to reduce compaction, increase water retention, and provide good seed bed.</li> <li>• Direct drill seeding and starter fertiliser.</li> </ul> |
| <b>Fertiliser spreading</b><br> | Autumn & spring                          | Apply fertiliser to promote strong growth. Different fertiliser blends are used at different in various situations and seasons.  |
| <b>Lime spreading</b><br>       | Jan – Mar if sowing; otherwise any time. | Apply lime to improve soil pH (reduce acidity). This will prepare the soil for sowing and improve germination and growth rate, and reduce weed growth in winter.   |
| <b>Aeration</b><br>             | Early Autumn and Spring                  | Aerate soils to allow improved penetration of water, oxygen and nutrients, leading to much improved soil health and root growth.   |
| <b>Slashing and mowing</b><br>  | Any time, usually spring                 | Slashing, flail mowing, ride-on mowing across paddock areas to control grass growth and/or cut down weeds.   |
| <b>Laboratory soil testing and planning</b>  | Any time, usually Jan/Feb                | Laboratory soil testing to confirm soil condition and the types of fertiliser/other additives required. Cost includes detailed report, management plan, and recommendations on soil treatment.   |
| <b>Fencing</b><br>              | Any time                                 | A variety of rural and stock fencing options are available including post and rail, post and wire, and electric fence options.   |





## Notes and Further Information

In our area, autumn is the ideal time to plant pasture grasses, as most pasture grass species are cold-climate varieties that grow strongly in late autumn, through winter, and into early spring, with the autumn/winter rains. The ideal timing is once the hot weather has passed but while the ground temperature is still high (above 12°C), and just before the autumn rains.

The second-best time for planting grass seeds is early in spring, once the ground temperature rises back above 12°C. The success of spring planting is dependent on the amount of spring rains received – i.e. needing enough rain to get the grass established before the hot summer period.

Attached as an appendix is our generic annual pasture management calendar, showing the outline of recommended property improvement and management activities for each part of the year.

We'd love to work with you in future on any property and pasture improvement activities!

I look forward to discussing the plan and options further with you and would be pleased to provide advice or firm quotes on any alternative options that you'd like to explore.

Kind regards,  
Jamie Ross

### Contact Us

[greenline@premiumpropertycare.com.au](mailto:greenline@premiumpropertycare.com.au)

0408 432 930 – Jamie

*Find us on Facebook and Instagram  
for the latest advice and updates.*





## Property and Pasture Management Calendar

Provided as a general guide and reference, the calendar cycle shown below is an approximate order of how improvement activities are generally undertaken throughout the year.

### November / December / January

1. Soil testing and update pasture plans for coming seasons.
2. Decide on areas to be sown with new or refreshed pastures in autumn, and add any soil treatments required (i.e. lime, fertiliser, gypsum)
3. Slashing for fire season grass-length requirements and hazard reduction.
4. Manage grazing to ensure paddocks are not overgrazed – this leads to bare areas that encourage weeds and can be at risk of erosion.
5. Control/spray blackberries, woody weeds, cactus-type weeds, fern/bracken, and summer flat weeds – while they are actively growing in late spring and early summer, and before seeds spread.
6. Empty water troughs when not in use and reduce any still water to reduce mosquito breeding spots.
7. Update bushfire plan, check all your emergency/evacuation kits, and complete fire season preparations.
8. Map out any problem grasses (barley grass, Chilean Needle Grass) while they can be easily identified by their seed heads.

### February / March

1. Continue to spray emerging summer weeds (i.e. flat weeds, thistle, rushes, catsear, bracken).
2. Identify any catsear/flatweed present, as it is a risk to horses (Stringhalt)
3. Commence preparation of areas which will have new pasture grasses sown in autumn.
4. Aerate pastures in preparation for autumn rains.
5. Repair and install fences, and improve areas which are a problem when muddy in winter (i.e. around gates)

### April / May / June

1. Identify early, and treat emerging capeweed, Paterson's Curse and other broadleaf weeds. Treat weeds when small and well in advance of them flowering in spring.
2. Apply fertiliser and lime as required. Most deteriorated pastures will have become somewhat acidic over time, and most grasses will not grow well in acidic soils. Lime is spread to raise the pH from acid to neutral. Soil testing is used to confirm the pH, acidity, and nutrient/fertiliser requirements.
3. Sow pasture seeds, including fertiliser at time of sowing. For full pasture renovations, sow annual pastures (fast growing but will only last 1-2 years) in year 1, oversown with perennial (will last 7-10 years) in year 2.

### July / August

1. Continue to treat emerging capeweed, thistle, Paterson's Curse, dock and other broadleaf weeds via selective herbicide (that will kill broadleaf weeds but not affect the grass), or by hand removal, to allow strong pasture growth and reduce the risk of illness to livestock.
2. Add booster fertiliser to paddocks as required to promote spring growth.

### September / October

1. Walk through pastures and commence planning for improvement works for the next year. Map weeds (while they're still visible) that will need to be treated next year (i.e. map out what weeds grow where so they can be treated while very small).
2. Map grass types in the paddocks (by looking at seed heads), particularly identify Barley Grass areas
3. Add pasture booster fertiliser – if grazing horses, then fertilisers are available that do not contain nitrogen (which can be harmful to horses).
4. Clean water troughs to reduce algae growth, which can become a serious problem later in the season as temperature increases.
5. Continue to treat emerging spring and summer weeds (docks, thistle, bindii etc).
6. Determine if conditions have created a risk of rye grass staggers for summer/autumn, and plan accordingly.
7. Rotational grazing to manage grass growth of any newly planted pastures, once long enough.
8. Roll and aerate pastures to rectify any pugging damage from the wet winter period.



## About Greenline

At Greenline, we care for your property as much as we do our own. We maintain and improve small farms and properties from 1 to 100 acres. **We are the specialists in small farms and paddocks, with extensive experience working with pastures for horses and alpacas.**

We live locally on our own property, so we understand the workload that comes with keeping your land, pastures, gardens, lawns, fences and everything else in the best condition.

We also know it can be hard to find high-quality, professional, on-time service. At Greenline, we're different – we do what we say we'll do, at a value-for-money price, and to an uncompromising standard.

We use the highest quality equipment, we clean up after ourselves, and we do things properly the first time.

### **We are proud to offer:**

- **Customised property improvement and management plans tailored to your exact needs and objectives**
- **A weed control guarantee – if our weed spraying treatment doesn't work, we'll repeat it and fix it for free**
- **Free annual inspections and a five-year warranty on all fencing and pastures**

### **Our Difference**

We are pleased to provide a unique approach to caring for your land, pastures and facilities. Our equipment, training and methods of work allow us to be nimble and flexible in servicing the unique needs of owners of small farms, acreage properties, horse agistments, and large residential properties.

In addition to our private clients, our commercial property care clients include Victoria Police Mounted Division, Costa Mushroom Farms, The Heritage Golf & Country Club, and a number of local schools and vineyards.

Using small, customised tractors and implements, we can access narrow laneways and small paddocks, as well as steeper sloping areas. We work at times which suit homeowners and their families/animals, rather than requiring owners to work around us.

All our team are small farm owners themselves, giving us experience and deep understanding in working around and caring for your property and animals. We hold the safety and wellbeing of you, your family, and your animals as our highest priority at all times.

### **Our Experience**

Currently providing property management and improvement services to over 100 properties, covering more than 2,000 acres throughout Melbourne's outer suburbs and rural Victoria, our speciality is the management and improvement of hobby farms, acreages, commercial and equine properties.

**We believe our services should improve the quality of your home and land, and give you back more time to enjoy your wonderful piece of Victoria.**

WE ARE COMMITTED TO ENVIRONMENTAL PROTECTION AND REGENERATION, SUSTAINABILITY, AND ACHIEVING NET NEGATIVE CARBON EMISSIONS FROM OUR OPERATIONS.

WE ARE PROUD TO BE THE FIRST PROPERTY MAINTENANCE BUSINESS IN VICTORIA TO PUBLICLY COMMIT TO ZERO NET CARBON EMISSIONS FROM THE FULL LIFE-CYCLE OF OUR ACTIVITIES.



OUR GOALS:



**NET ZERO CARBON EMISSIONS**



**NET ZERO CHEMICALS**



**NET ZERO WASTE**