



***Establishment Guidelines  
for Princess-77 using  
Conwed hydromulch***

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PGG Wrightson Turf field trials in Melbourne and Auckland have demonstrated that sowing Princess-77 with hydromulch is the fastest, cheapest and most efficient way of establishing couch. Furthermore, oversewing couch each autumn with perennial ryegrass will improve the playing quality, durability and colour of the surface, without compromising couch recovery the following spring (go to [www.pggwrightsonturf.com.au](http://www.pggwrightsonturf.com.au) to read the full reports, 'Success with Princess-77 seeded couch' and 'Assessment of

football surface quality and couchgrass recovery with or without winter oversewing with perennial ryegrass' and our 'Guide to winter oversewing').

We gained a lot from those trials, learning from some mistakes, finding some surprising new benefits, and reinforcing what we already knew about:

- a) the efficiency of the hydromulch process using modern wood-fibre mulches
- b) the rapidity of establishment of Princess-77, and

- c) the advantages of winter oversewing couch with perennial ryegrass

The main problems that we encountered in our Princess-77 establishment trials were due to design and/or management faults (e.g. poor irrigation uniformity or scheduling, excessively droughty drainage lines, lack of fertiliser etc), not the fault of the grass. Following this experience, we have put together a ten point plan for those embarking on the Princess-77 hydromulching process.



*Line planted Santa Ana at six weeks.*



*Princess 77 establishment at six weeks.*

## Princess-77/hydromulch 10 point plan

1. For fields designed for winter sport, our programme consists of a Princess-77 base, oversown each winter with a winter-active perennial ryegrass such as Colosseum, Arena 1, Duraturf Sports Oval or blends of these cultivars with the darker but less winter-active cultivars Centurion, Soprano or Fiesta IV, adhering to PGG Wrightson Turf's ten point oversowing guide.
2. Princess-77 sowing can commence any time spring soil temperatures get over 20°C, through until mid-December. Sowing by this time will result in full couch establishment and maturity, and allow time for the formation of rhizomes and adequate carbohydrate storage to face the following winter. By mid-autumn the field would be ready for oversowing with perennial ryegrass, and a full schedule of winter play.
 

*Note: Late sowing of Princess-77 is possible if a project is delayed, through until late February if necessary, probably until late April in Queensland. Even with such a late sowing, Princess-77 establishment should reach full cover by the time growth stops in late autumn into winter. However, such a field would not be ready for play until after the next summer.*
3. Use a hydromulching contractor who has the experience and equipment to adequately apply Profile's thermally-refined wood fibre mulch products. These products absorb much more water than paper or straw mulches, and not all machines can handle them.
4. Sow Princess-77 at a rate of 40kg/ha pure live seed. Obtain a recent (within 12 months) Purity and Germination certificate to calculate the correct rate. Seed germination should be evident 7 – 12 days after sowing, depending on temperature.
5. Apply the seed with 2 t/ha Conwed2000 hydromulch (which contains tackifier), or Conwed1000 hydromulch mixed with 20kg/ha Tack3 tackifier. Refer to the loading chart and application guide for Conwed Fibers Hydromulch at [www.duraveg.com.au](http://www.duraveg.com.au).
6. Apply Princess-77 and hydromulch to a firm, smooth, laser-levelled seedbed. Apply extra thick coverage around any sprinkler heads, unless they have been protected by turf. No wheeled traffic is allowed on the ground during the hydromulching operation, and through until 6-7 weeks later, when regular mowing and other cultural practices should commence.
7. After hydromulching, ensure the seed/mulch layer is kept continually moist for at least two weeks. This will involve frequent, light irrigations on hot, windy days. Each cycle should apply no more than 0.5mm at a time (probably no more than a couple of minutes per head per cycle). Ponding or runoff from excess irrigation must be avoided. Runoff from heavy rainfall is unavoidable, but the hydromulch will prevent seedbed erosion. After two weeks, irrigation can be reduced to keep the top 50mm moist until four weeks after sowing, then to keep the top 100mm moist until eight weeks after sowing. After this, irrigation can be greatly reduced.
8. Initial mowing should be done with low-compaction equipment, potentially straight in with a ride-on cylinder mower. The first cut should be done when turfgrass coverage is over 90%, and before growth height exceeds 40mm. Final mowing height can be down to 8mm, but any reduction in mowing height should be done gradually.
9. Ensure adequate nutrient management is provided, following modern turf agronomic practice. Some guidelines: On a new sand-based rootzone, a pre-establishment application of organic fertiliser (e.g. 1 t/ha poultry manure) is useful, providing adequate nutrients for the first six weeks in a slow-release form. Dolomite lime can be used, if required to increase pH to a range of 6.5-7.5. Post-establishment, after first mowing, apply three soluble nitrogen applications of 0.15 kg/100m<sup>2</sup> actual N per month, or a single slow-release N product delivering a similar actual N. A tissue test should show at least 3% tissue N content during this phase. Fertility can be greatly restricted after that period, although oversown perennial ryegrass will require reasonably generous nutrition at establishment and through winter.
10. Ensure adequate pest and disease management, following best turf practice. Princess-77 establishment is very rapid, so weed invasion should be minimal. However, if required, conventional broadleaf herbicides and sulfonylurea herbicides for *Poa annua* control can be applied after first mowing. Inspect for mite damage, and apply registered miticides if required. A Spring Dead Spot program using propiconazole should start in the first autumn.
 

If the seedbed was smooth, firm and level, topdressing should not be required to improve levels. However, it can be done if preferred (when oversowing ryegrass, for example) starting any time after 100% couch coverage, at rates up to 50 m<sup>3</sup>/ha (app. 75 t/ha), applied evenly and smudged or brushed in.

We are confident you'll have an excellent establishment result with Princess-77 sown by hydromulching, provided the design, construction and later agronomic management of the field are of a high standard. In our trial work, Princess-77 performed extremely well except when let down by poor design or poor turf agronomy. Some specific points:

- Irrigation uniformity should be audited prior to sowing, and a minimum DU of 85% and minimum CU of 90% should result.
- Irrigation application should be carefully managed to avoid surface dryness, but also to avoid ponding or

runoff. Seed establishment will suffer badly in areas of standing water.

- Sand-based rootzones should not be excessively permeable (e.g. over 300mm/hr), as such sands can be unstable, and leach nutrients excessively. In addition, the rootzone behaviour, especially its moisture holding capacity, should be uniform across the surface.
- Princess-77 grows extremely well on soil-based fields if appropriate surface drainage techniques are in place to avoid ponding.

Feel free to contact PGG Wrightson Turf agronomists if further input is required.



Princess-77 sown with conwed 2000.

## PRINCESS-77

Certified Hybrid Bermudagrass



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