

BOWLS

WINTER FACT SHEET

Winter Checklist

During winter (June – early August) key greenkeeping requirements that are typically required are:

WINTER MANAGEMENT CHECK LIST FOR BOWLING GREENS				
Activity	Dioica greens	Maniototo greens	Starweed greens	Comment
Mowing	✓	✓	✓	<ul style="list-style-type: none"> ▪ Mow in relation to growth such that not more than two catchers of clippings are removed at any one cut. ▪ Regular mowing is important on dioica and starweed to maintain a fine leaf texture and avoid a crown developing. ▪ Unless greens are very soft avoid raising the mowing height significantly (> 1mm – approx.) during winter from that practised during the playing season.
Fertiliser	✓	✓	✓	<ul style="list-style-type: none"> ▪ Requirements will depend on soil test results. ▪ Typically during winter, final lime application and magnesium sulphate will be applied.
Moss	✓	✓	✓	<ul style="list-style-type: none"> ▪ Make sure moss is thoroughly wetted when spraying. ▪ Schedule spraying in mild periods when plant is actively growing and can spread into bare areas left by dying moss.
Grass	✓ Kerb Flo, Polka	✓ Kerb Flo, Polka	✓ Gallant, Ignite Centurion	<ul style="list-style-type: none"> ▪ Kerb Flo or Polka should be applied to a wet green during frosty conditions and washed in with at least 5mm of rain or irrigation ▪ Grass must be actively growing on starweed greens for the herbicides (identified) to provide reliable results.
Worms	✓	✓	✓	<ul style="list-style-type: none"> ▪ Carbendazim (500gai) 1 – 1.5L/green ▪ Sevin Flo (500gai) 2.5 – 5L/green ▪ Apply to a wet green and wash in with at least 5mm of rain or irrigation.



Sclerotinia minor		✓	✓	<ul style="list-style-type: none">▪ In mild parts of the country, be vigilant for Sclerotinia minor which can be a problem on both starweed and maniototo greens especially in shaded areas
Machinery	✓	✓	✓	<ul style="list-style-type: none">▪ Ready machinery for the next playing season.▪ Sharpen and service mowers.▪ Service roller▪ Check operation of sprayer and condition of nozzles.

1. Maniototo Bulbils

Many clubs will be planning to introduce maniototo bulbils into their greens over this winter. Bulbils are a plant fragment that is formed at the junction (axil) of the cotula leaf and stolon. In nature, when the bulbil is fully formed, rain causes the bulbil to be released, which then **floats** until it lodges in bare ground, a crack or similar.

1.1 Harvesting Bulbils From the Green

Various techniques are now used to harvest bulbils.

1.1.1 Hose

The traditional approach involves using a hose or rope to form a “dam” around the perimeter of the green. The bulbils can then be released by either rain or the use of the fire hose. Bulbils accumulate against the rope, where they can be scooped up and processed.

1.1.2 Rotary brush

This involves using the rotary brush (same as is used to clean synthetic greens but with a softer setting) to sweep the green. Sweeping is carried out when the bulbils are first observed.

1.1.3 Rotary mower

At a recent field day, it was commented, that clubs had used a rotary mower to vacuum off the bulbils with good results.

1.2 Processing Bulbils

Where bulbils are not going to be used immediately they need to be cleaned and “dried”. When they are stored wet, longevity and germination of the bulbils will rapidly decline.

The normal process involves:

- Scooping up the bulbils from the green using a square mouth shovel or similar.
- Placing bulbils into a container of water and then scooping off the clean bulbils floating on the top of the container.
- Placing the bulbils onto a sheet to “dry”. Spread bulbils very thinly over the sheet. Ideally let bulbils dry naturally rather than using a heater or similar.



- Use a rake or broom to push the bulbils around to assist with drying.
- Bulbils are considered to have “dried” adequately when they are free flowing.
Note: If they are dried out completely (turn khaki green or brown) you’ve gone too far.

1.3 Storage

Bulbils are living plant material and need to be kept cool and dry. Failure to meet these requirements will compromise longevity and germination as they can rot.

- With this in mind, bulbils should either be stored in a paper bag (which doesn’t sweat like plastic) or an open container.
- Until used the bulbils should be stored in the beer chiller or similar so that they remain cool.
- Every 2nd day the bulbils should be turned. This is to stop the bulbils heating up in the centre of the pile and also to keep the bulbils dry. If they are not turned regularly bulbils will sweat.
- Where you are trying to store bulbils for a long period (> 2 – 3 months), it is desirable to mix a contact fungicide (e.g. mancozeb) with the bulbils.

Note: fungicide treated bulbils should not be stored with food or drink.

1.4 Sowing Cotula Maniototo Bulbils in Bare Areas

The key is to make sure the bulbils are covered with soil and this is lightly consolidated to prevent them floating to the ditch during rain.

Localised Bare/Weak Areas

The following procedure is suggested:

- i. Scratch the bare area(s) in 5-8 different directions to loosen the surface to a depth of 5mm (approx) and expose some soil at the surface. **Don’t cultivate too deep or you will damage the levels.**
Or
With small areas, ‘pepper’ the surface with 10 – 15mm deep holes using a pitch fork, dimple type spiker or similar.
- ii. Level the surface with some soil (if needed).
- iii. Apply an NPK seedbed fertiliser (e.g. Nitrophoska) at 10-15g/m²
- iv. Spread bulbils at 20g/m² in 2-3 different directions
- v. Apply 2-3mm of soil, so that the bulbils are covered and then push down with flat soled shoes (covered in plastic)
- vi. Apply another light soiling and either roll or push down with your feet
Or
Cover with scrim and lightly roll.
- vii. To reduce wash outs in wet climates, cover with scrims until germination is observed.
- viii. Keep moist for 2 weeks to ensure even germination.



Green with Existing Turf Cover

Many clubs with starweed and or dioica often want to introduce maniototo into the green.

Generally best results are achieved where:

- i. Use a groover fitted with 2 – 3mm wide tungsten tipped blades. Blades should be spaced as close together as is practical (typically 25mm apart).
- ii. Slice the green in two directions and if it doesn't tear three passes to a depth of 3 – 4mm. Don't go too deep. The goal is to create a shallow groove that requires minimal soil to fill, where the bulbil will lodge.
- iii. Remove the debris with a rotary mower or similar.
- iv. Divide the quantity of bulbils (typically 10 – 15kg/green) into three equal amounts.
- v. Broadcast two lots of bulbils uniformly over the green and ideally using a soft brush or similar sweep the green so that bulbils are present in all the grooves.
- vi. Over sow the remainder of the bulbils.
- vii. Use a drop spreader to apply soil evenly over the green (approximately 10-15 wheel barrows). The use a drag mat or similar to work soil/bulbils into the canopy/grooves.
- viii. Apply a further 10 (approx.) barrows of soil evenly over the green and lightly roll.
- ix. Once bulbils establish, soil and screed green, i.e. ensure grooves are completely backfilled with soil and a smooth surface is produced.

New Green

(Refer to Cotula manual).

NZSTI Services

If your club would like phone support throughout the year or a visit to prepare a maintenance programme specific for your greens, NZSTI offers two commercial packages.

1. Remote Services Package - (provides Greenkeepers with phone advice and interpretation of soil tests).
2. Annual Advisory Package - (provides Greenkeepers with an annual advisory visit, report, phone advice and interpretation of soil tests).

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