

YEAR-ROUND MAINTENANCE TIPS FOR CRICKET GROUNDS

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Introduction

Most of this booklet is concerned with work on the square, but we must not forget the outfield. The starting point chosen is the autumn renovation because this is the critical time to ensure a successful season the following year! The amount of end of season work required will depend on the standard of repairs over the playing season. This topic will be discussed in detail later on.

Autumn renovation

A close inspection of the square is required some two weeks before the end of the season. If there is any sign of weeds they should be controlled by applying a selective herbicide over the square, omitting the pitches that are still scheduled for use. Any operator using pesticides must by law be adequately trained and may also need a Certificate of Competence issued by the National Proficiency Test Council.

Once the season has finished, Autumn renovation must start as soon as conditions will allow. It is imperative to have the overseeding complete with germination before the cold nights set in. The first task is to mow the square with the height of cut of the mower adjusted as low as possible. Removing as much vegetation as possible will assist a satisfactory completion of all the following operations.



SISIS SUPATURFMAN

The next step is to scarify the square to remove as much thatch and dead matter as possible from the playing surface. Although it is possible to attempt the work with a Springbok rake it will never do as good a job as a purpose built scarifier such as the SISIS AutoRotorake or in extreme conditions the SISIS Rotorake 600. Both have a range of interchangeable reels but in the Autumn thatch removal tines are required. These are robust tines that will penetrate the thatch through to the soil surface.

Ideally, the ground conditions should be dry on the surface. Use the collecting box to gather most of the debris you have removed. The first pass should be at right angles to the wind direction, starting at the windward side. This will prevent any loose debris from blowing onto the area to be scarified. With the continued use of vigorously growing Perennial ryegrass in the square it is likely that you will have to pass over the square several times. Sometimes, as many as five passes are required to remove all the thatch. Any further passes from the first should be done on a slight angle to the first. This will prevent small squares being created that can easily lift out. Alternatively, the whole operation can be completed successfully by using tractor mounted equipment such as the SISIS ROTORAKE TM1000 which will also collect the thatch

On completion of each scarification brush any debris that is not gathered in the collection box by replacing the thatch removal reel with the brush reel.



SISIS AUTOROTORAKE

Aeration is the next operation:

Before aeration can be completed satisfactorily, it is necessary to investigate the soil profile. By taking out a small slit of the rootzone it is possible to identify any layering, pans or other problems. This investigation may determine the depth of tine required and therefore the type of equipment. Any layers that are evident should be broken to prevent root breaks occurring in the pitches (it may be necessary to consult a local cricket pitch advisor if problems are evident).

When selecting the type of tine to use never use a slit tine on the square and only when incorporating a different top dressing use a hollow core tine. The best tine to use is a solid tine. Although it may be impossible at this time of year to get full penetration of tines, because the soil is so hard, the operation should still go on. Surface aeration will at least provide a good bed for grass seed and top-dressing. Where pans are evident it is necessary to use a tine that is at least deeper than the base of the pan.

Vertical penetration aeration equipment is the most suitable, ranging from the SISIS Dart to the SISIS Javelin. At this stage it is essential that the aeration programme has at least roughed up the surface for overseeding. It may be necessary to complete this operation in the autumn or early winter when there has been sufficient moisture to soften the rootzone.



SISIS DART

Overseeding should be the next operation. Extra holes can be placed in the surface by using the Rolaspikereel in your Auto-Rotorake. The choice of seed will depend to some extent on the standard of play on the square. Many top clubs will use a blend containing 100% perennial ryegrass (*Lolium perenne*). Village clubs would be unlikely to cope with the excessive maintenance requirements of ryegrass.

The alternative would be to use a mixture containing Browntop bent (*Agrostis tenuis*) and Chewings fescue (*Festuca comutata*), probably mixed with Perennial ryegrass. Again, the local pitch advisor should be able to guide the club in the right direction. The comparative cost of the seed against other materials used is minimal therefore it is not good policy to buy cheap seed. A good quality square cannot be obtained from a poor start. The overseeding should be done at a rate of approximately 18 grams per m² (3/4 oz. per sq. yd.). It is necessary to have a competent person if the seeding is to be done by hand, alternatively a distributor like the SISIS Truspred or SISIS Auto-Seeder can be used. Tractor mounted seed distributors are available such as the SISIS Variseeder to speed up the operation. Any bare turf areas may be roughed up with the SISIS Ferret before extra seed is applied by hand to ensure a good cover for next season.

The next operation is the application of the autumn/winter fertiliser. The nutrient analysis of the fertiliser should be guided by a nutrient analysis taken every two to three years. With the game of cricket requiring a grass with a strong root it is usual to apply an autumn fertiliser that is higher in Phosphate and Potash and low in Nitrogen. Phosphate is not mobile in the soil so now is the best time to apply when there is a good chance of getting some down the tine holes to encourage a deeper root. The fertiliser must be applied evenly at the rate recommended by the manufacturer; therefore it is essential to use a distributor like the SISIS Truspred.

After applying the fertiliser the top dressing should go on. It is critical that the right top dressing is used. There is a full range of products on the market; all are suitable for a particular situation. Cricket loams vary from 20-40 % in the UK. Heavier loams are used in countries where the temperature is much higher than the UK. At club level the clay content should be between 24-30 % and 28-39 % at county level. The



SISIS TRUSPRED

percentage of silt and sand is also important, the percentage of silt divided by the percentage of sand plus silt should not be more than 0.75% at all levels.

The use of top dressing on a cricket square must follow two fundamental principles:

1. It must be compatible with the existing rootzone in terms of particle size.
2. The top dressing must be compatible with the existing rootzone in relation to swell / shrinkage characteristics.

Before we move on with this section it may be useful to remind ourselves of past practices in cricket ground maintenance. The original squares were probably no more than a selected strip from a grazed field. Many attempts to dope the surface were developed to improve the playing surface. Up to fifty years ago the emphasis on pitch preparation was to produce a flat docile pitch, which showed a bias to the bowler. Two of the main constituents of a paste were cow dung and marl, which would form a firm crust on the surface, providing the weather remained dry. The organic content would have limited the binding quality of the clay and the pitches would be classed as slow. The formula was used right from the village cricket ground through to the top facilities. This treatment many years ago can create huge problems in some of the squares of today. The marl can now be seen as a red coloured layer some way down the soil profile.

Layering may be caused by several reasons:

1. Poor incorporation of top dressing.
2. Aeration to the same depth every year.
3. Sudden change of top dressing.
4. Too heavy an application of top dressing.
5. Covering of a thatch layer, which would develop into an organic layer.

When investigating the soil profiles of cricket squares many will have evidence of a marl layer. Marl should never be recommended for use on a cricket square today.

Top dressing involves the application of sieved loam to the surface of the square to improve the surface and ameliorate the underlying soil. The top dressing should be a heavy clay loam with a binding quality of 55-65 kg (100-120 lbs / in²). The organic matter should be between 4-12% and the pH above 7. Proprietary materials are available on the market that includes Banbury, Boughton, Kaloam, Kettering, Medip, Ongar and Surrey.

Top dressing must be dry and applied to a dry surface to enable satisfactory distribution to take place. Care should be taken not to apply too thick a dressing in one application to avoid smothering and killing the grass. Split applications can be applied at intervals to avoid any problems. Top dressing should always be applied to a well-aerated surface to ensure that the loam filters down the holes and prevents a layer developing on the surface.

To apply the loam, divide the square in the direction of play into 1m widths with the aid of strings. Into the area apply two 25kg bags of loam or one level barrow full. The loam should be spread evenly over the area within the strings by using a shovel to fling the loam or a distributor such as the SISIS Truspred. The loam requires levelling and working in to the grass. The SISIS Trulute is excellent for this purpose. First use the flat edge to level the surface and then turn the lute over to the cutting edge to work the loam into the crowns of the grass. Move the string over and repeat until some three pitches of the square are complete. Using the SISIS drag mat or SISIS brush to create the final levels on the square completes the top dressing. Use the mat or brush in several directions to avoid ridging. By completing the square in sections there is less risk of problems if the weather conditions suddenly change. When all the sections are complete a final brush or mat over the whole square will create an even surface. Hand equipment is best suited for applying top-dressing , but if speed is important equipment such as the SISIS Autospred or even tractor mounted top-dressing such as the SISIS Powaspred is available.



SISIS TRULUTE

Winter Work

It is not satisfactory to complete the renovation work in the autumn and forget about it until the spring. We should keep an eye on the square over the winter months. Regular use of a SISIS drag brush will provide the opportunity of walking the square and investigating any outbreak of fungal disease and enable the observation of any excessive grass growth. In any mild weather it may be necessary to tip the grass to ensure the grass does not receive a check in the spring by removing too much grass in a short period of time. Any growth over 25mm (1 inch) should be tipped off when conditions allow. Before mowing ensure there is no debris on the surface.



SISIS DRAGBRUSH

If the full depth of aeration was not achieved in the renovation period it would be wise to consider the use of a tractor-mounted aerator such as the SISIS Javelin. This will assist in destroying what may have developed below the surface. When a soil profile indicates a hard pan below 150mm (6 inches) it may be necessary to use an aerator with a heaving action. Extra top dressing will be required to fill the holes and more rolling will be required in the spring to re-firm the square. Much better root growth can be anticipated when using such a machine, but it needs a very competent operator otherwise much damage can be created on a cricket square. Do not attempt to complete any deep aeration after the end of December; otherwise there will be insufficient time to key in any additional applications of top dressing.

Early Spring Work

During the winter months frosts heave the surface. The unevenness, which results from the heave, must be rectified. Use a light roller, maybe the cylinder mower, at the earliest opportunity in the Spring. Prior to rolling brushing should take place to remove debris or worm casts.

Mowing in the initial stages must just tip the grasses. No attempt should be made to mow the grass in frosty conditions. After the first cut of the season the height of the square should be maintained between 18 - 25mm (3/4 - 1 inch). Prior to the commencement of the playing season, vary the direction of mowing to prevent the formation of a nap in the sward.

The cricket square requires a firm even surface and rolling should commence as soon as suitable conditions prevail. The use of rollers over several weeks will slowly consolidate the square. Initially use a lighter roller to provide a true, even surface but prior to the start of the season a heavy roller of 1 - 1.1/2 tonne should be used. Roll the square in as many directions as possible to ensure no ridging takes place.

It may be necessary to carry out a light scarification with the SISIS Auto-Rotorake fitted with the thatch control reel if there is any sign of organic matter in the surface after the winter months. The SISIS Rolaspikes reel will gently prick the surface and prevent capping. The use of a deep spiker is not recommended at this time of the year for fear of the surface cracking during the playing season. The spiked surface will assist in the application of a balanced fertiliser dressing in the Spring. At this time of the year avoid high applications of Nitrogen. The regular use of a drag brush will help prevent the ingress of any fungal disease. Should any serious problem arise from disease, seek the advice of a pitch advisor.

Spring Preparation

At this stage the rolling should be in the direction of play, not in union jack fashion. With the surface of the square beginning to take shape it is now time to square off the square. The 3:4:5 method of triangulation is used to ensure that all the corners of the square are at right angles. Consideration should be given to the number of pitches on the square. Many clubs have too many pitches and not enough resources to maintain them. A few less pitches with the same resource should see an improvement in the quality of the playing surface. Ten pitches should be sufficient for the average club, 15 pitches at the most, except for county standard. The pitches are identified at 3.04m (10 feet) from corner to corner on the batting crease line. Use a permanent whitening powder so that the marks are available for the

season.

When the fixture list is available it is possible to establish a programme. Aim to keep equal use of pitches over the whole square so that wear is spread evenly. Matches should not follow on adjacent pitches but should be kept as far apart as possible. The two end pitches are usually kept for wet weather and practice.

Pitch Preparation

Work should start on the pitch at least five days before play. Water will be applied to a dry pitch by hand or sprinkler. When the water penetrates the surface rolling can commence. Use the heavy roller slowly for a period of about 30 minutes. If the grass turns black, the surface is too wet for rolling. It is better to get off and return later.

Prior to mowing it is necessary to lift the grass by using a SISIS Auto-Rotorake fitted with the brush reel or a SISIS Combirake. The mowing should gradually take down the height of the grass so that it is as low as possible without scalping any areas. Any slight deviations in the surface can be lifted with a fork and levelled out by rolling. Rolling should continue for a period of 30 minutes on each day prior to the match as long as there is moisture in the soil.

Mowing also will continue until little can be taken from the pitch. The pitch should be even from



SISIS COMBIRAKE

stump to stump; therefore the mowing should at least extend from stump to stump.

Scarification should stop at the two popping creases to really clean out the middle of the pitch. By leaving the ends there is less risk of wear from the bowlers run-up.

Covering the pitch may be necessary if the weather is wet or very hot. If the pitch dries out very quickly it may crack.

Marking of the pitch should be done on the night before or the morning of the match. The lines should be no more than 25mm (1 inch) wide and as near to 13mm ($\frac{1}{2}$ inch) as possible. Whitening powder or white emulsion paint are both suitable. It will be necessary to moisten a very dry surface before the paint will stick. Marking is carried out with a purpose made frame or with strings.

After marking, the stumps can be erected with the aid of a stump marker, a set of three points set at the correct distance apart. It may be necessary to fill the holes with water before pushing in the stumps to prevent them breaking off.

During the match the pitch should be cleaned between the innings to provide both teams with an equal opportunity. The batting side may request rolling to take place.

After Match Renovation

Clear off all loose fibre from the pitch. Use a SISIS Rolaspikes reel prior to watering the pitch. Any holes and divots will require re-levelling. Small holes should be pricked with a SISIS Ferret or a garden fork before working in a suitable loam and re-firming. Larger holes on the bowlers run-up should be cleaned out, forked and filled with water and left to soak in. A suitable loam is then placed in the hole and roughly levelled. It is best left to be levelled off properly. Any worn areas should be re-seeded. Any repairs in the playing season should be sown with the sports type Perennial ryegrass (*Lolium perenne*), as they are quick to germinate and establish. The use of pre-germinated seed will speed up the establishment period. A light dressing of a balanced fertiliser and top dressing over the whole pitch will speed up the recovery process.

Work On The Outfield

The outfield should produce a fast and true surface for the ball to run without deviation. It should be firm to prevent damage from the cricket ball and provide a good foot hold for the fielder. A similar surface to the square would be ideal but in general that is impossible and compromises have to be made.

Some outfields provide a dual role and will be used for hockey or other winter sports after the

cricket season. In these circumstances there is a greater opportunity to club together and create better resources for the maintenance of the turf.

Aeration during the Autumn will assist in root development of the grass plant. A healthy grass plant will inhibit the ingress of weeds, pest and diseases. The use of a deep slitter such as the SISIS Multislit can be used when the ground conditions allow.

Drainage is another major problem on the outfield and the installation of a piped drainage system may be required. The outfield should ideally be made up of a good free draining loam with suitable grasses and be weed-free.



SISIS MULTISLIT

Mowing is the main operation carried out on the cricket outfield. The height of cut will be determined by the standard and quality of the facility. A good outfield will be true enough to maintain a cutting height of 12mm (1/2 inch), Any unevenness in the surface would prevent close mowing and a cutting height up to 25mm (1 inch) is normal. For the best presentation a 90mm (36 inch) box cylinder mower is used. With the combination of a roller mounted trailed seat the mower will assist in the firming of the surface.

The mower clippings are removed to lessen the risk of thatch development. Unfortunately there will be a greater demand on nutrients and additional fertiliser applications will be required. Even at county level the demands on time and resources are great and some grounds will now



SISIS TEESTAR

use a ride on triple mower, such as the SISIS Teestar, on the outfield. Many village clubs will have the outfield cut by a set of gang mowers behind a tractor or vehicle. The SISIS compact hydraulic reel mower will do an excellent job. These mowers will reduce the cutting time and return the clippings to the surface. The lack of rolling when using the gang mower will reduce the need to aerate with spiking equipment.

In the early Spring the use of chain harrows such as the SISIS Scarro will replace any divots after winter games and also true the surface before the cricket season.

A light rolling prior to the commencement of the playing season will alleviate soil disturbance and firm the sward. A large mower with the cutting cylinder disengaged will prove adequate for the purpose and may also be used during the playing season to firm the outfield should the need arise.

Fertiliser on the outfield is not as important as the square unless the same area is being used for winter sports.

Other maintenance operations would include the control of weeds, pests and diseases as required. Take care that any application of pesticide is carried out under the guidance of current regulations.

We have now completed the annual maintenance of the cricket ground. Every ground is somewhat different with its own peculiarities and problems. This information is of a general nature and should be treated as such. Grounds with a specific problem should seek expert advice from the local cricket pitch advisor.

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