

PITCH PREPARATION & RENOVATION

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This information on pitch preparation and renovation is a guideline designed for curators in Perth and country areas.

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END OF SEASON RENOVATION

At the completion of the last game of cricket, renovation takes place. Firstly, clean the pitch with stiff brooms or a vacuum, if you have one. The idea of cleaning the pitch is to remove as much loose debris as possible.

As soon as the pitch is clean, water the pitch block using the irrigation system (water explained later). The pitch block becomes quite dry after a game and requires time for the block to soften up.

The next stage of renovation is scarifying, this scarifying requires a heavy type of machine (walk behind petrol engine) so that it can penetrate the clay soil the blades should be between 20-25mm apart (3mm wide blades). Grooves will be left in the soil from the machine and will form a key-way (5mm deep). Depending on the amount of grass on the pitch block will determine the amount of times you will need to scarify it. Go in different directions, eg diagonal, across up and down. There should be a reasonable amount of grass still on the pitch block but also the clay should be showing through this grass or grass leaf.

The object of scarifying is to take away the thatch layer that builds up during the season. (Thatch is where the build up of loose debris, grass clippings, and organic matter occurs)

When you are satisfied that the scarifying is complete then clean the pitch block using stiff brooms to scrub areas where it is hard to remove debris or organic matter that might be stuck to the soil surface, use a vacuum to remove the material and go over several times as the pitch block has to be as clean as possible.

Fertilise the block when the cleaning is complete use low-index salt fertilisers at this time of the year (autumn). Potassium will be ideal as the grass needs toughening up and it encourages root development. Also you should ensure an even coverage of fertiliser by double passing, eg: up and down the pitch block then across this provides a uniform cover. Water this fertiliser in but do not flood as you will wash the fertiliser either off the block onto the outfield or it will puddle into the low areas.

Top dressing of the pitch block should be done when the block is as dry as you want to be able to move the soil around. If the pitch is wet then the clay will stick to the surface.

The clay or soil will often be delivered in 1 tonne bulker bags or by the truckload. The soil is processed so that there are finer particles (pea sized particles). This makes it particularly easy to spread.

When doing the top dressing you will need wheelbarrows, shovels and tractors with a front-end loader bucket if possible. Form a busy bee with your cricket club or get your mates to help. Using level lawns or 'dummy rakes' across the top dressing helps screed / move the clay evenly over the block. The idea of moving this soil around is to spread the finer particles over the level areas to move the bigger particles into the lower areas or hollows.

Topdressing clay-to-clay contact is very important. If you don't do this then layers can form and will cause such things as more pronounced cracking, also peeling of the surface. Never top dress straight onto the grass mat of the block, always scarify first.

After you have top dressed the pitch block lightly water the soil. Do not flood, by light watering the soil will slowly break down. Then the light use of rakes will allow the grass shoots to come through the soil. Raking the soil is to be done after each light watering, do this to the whole pitch block and then re level with your level lawns. This will encourage the new runners (shoots that come through the soil).

Another way to encourage the growth of pitches is the use of 'Agryl' sheeting or shade cloth, they can be made to the size of the pitch or pitches and covered for 2-3 days at a time, then remove and put on the other pitches. These materials prove a warmer humid environment to encourage faster growth, but can also cause fungal problems, therefore shift this material every few days.

If there are any bare areas left on the pitch block then patch these up using grass runners or washed sods. All traces of sand must be washed out of the grass before being used in the clay. Preferably use the washed rhizomes (stolons where the ball will land on the pitch area and the washed sods at the

batting/bowling ends (foot holes). When planting runners use a prodder such as a Philips screw driver to poke holes down through the clay to the sand profile, place runners in the holes with roots on them leaving the grass leaf poking out the top. Let the runners establish themselves before cutting them. By constantly cutting the growing runners you will provide horizontal movement instead of vertical movement allowing the runners to spread quicker along the surface.

Using washed sods will save a lot of time instead of stitching the surface by planting runners. The area to be used should be roughed up, that is, the bare area should be broken up from a compacted or sealed surface this will allow better root penetration. Water the washed sod and roll into the surface.

During the winter months maintain the pitch block at a higher cut e.g. 15mm, leaving the grass higher will encourage a deeper root system.

START OF THE SEASON

Leading into the cricket season when the pitch block is dry enough but also in a plasticine type condition, it is a good idea to cross and diagonal roll the block.

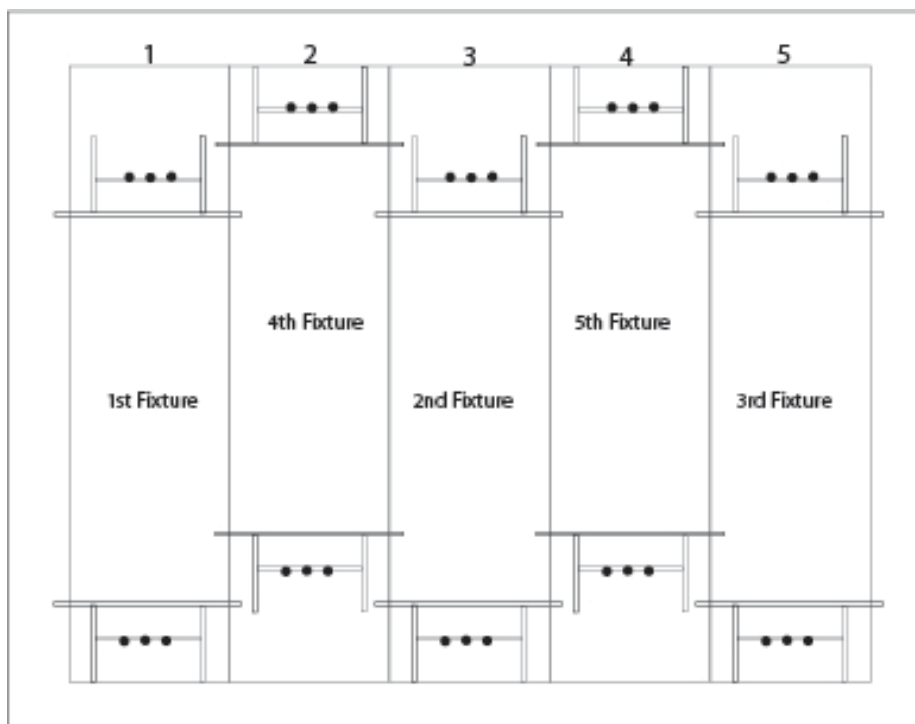
Cross-rolling will help alleviate any undulations and correct leveling from the end of the previous season's top dressing.

Start to lower your height of cut so that the pitch block is maintained at 10mm during the season. If there is a good cover of grass then a light verti-mowing will encourage new growth and thin out the block.

Select the pitch to be used for the last fixture preferably one of the end pitches so that this will cause less wear and tear on the rest of the pitch block, during the early part of the season the weather is still cool and the rain is still persistent.

The following diagram shows you the rotational system to use on a 5-pitch block.

This system allows less wear and tear by moving the creases up and down on each pitch and also creates less work replanting areas.



The first fixture to be played on pitch no 1, then 3, then 5 followed by pitch 2 then 4.

Pitches 1, 3 and 5 have the crease lines parallel to one another; pitches 2 and 4 are parallel to one another. This means that it will create less wear and tear and provide a very manageable pitch block for the season.

PREPARATION OF A WICKET

All pitches should be presented neat and tidily. Therefore use string lines to identify the pitch. The width of the pitch is nominally 3.05m. Two weeks prior to the 1st fixture mow the pitch at 8mm and then the next week at 6mm. Always double cut the pitch (that is to mow up and down on the same line).

The pitch block during this period is to be kept moist; the clay should be saturated all the way through to the sand profile.

Plan one week ahead for the work-up of the pitch. If the pitch needs to be evened up with water, then handwater the pitch the night before using a fish mouth nozzle on your hose. This will provide an even coverage of water across the pitch.

WORKING UP THE WICKET

This procedure starts off using a light roller (approx 1 - 1.5 tonne). The pitch should be moist enough, but not too saturated on top. The light roller starts along one of the string lines (the edge). Moves its way up and down across the pitch. As the roller moves along the pitch it will start to become a blackish brown colour. This is called the work-up of the pitch. The grass starts to get pressed into the clay or the clay is working up through the grass. If the roller starts to get a bow wave at the front, stop, as it is too wet. Let the water drain into the surface for a while and then get back onto the pitch.

The pitch after a work-up should have an even black appearance across the whole pitch. If the pitch is not working up, then it is probably too dry. If so, add some more water with your fish mouth nozzle. The evenness of the pitch colour (work-up) will help the pitch to become of consistent bounce and speed.

SEALING OF THE WICKET

When the pitch is dry enough (that is when you can put your hand on the surface and the moisture) and the clay doesn't stick to your hand, then the pitch is ready to seal. Sealing is the process where by using the same roller, at a faster speed that the surface of the pitch will change to a lighter colour. If it doesn't change colour, then you could be working-up the pitch again. The sealing of the wicket is very important. If the pitch is not sealed correctly then the pitch can become two-paced and makes batting difficult.

During the work-up and sealing stage of preparation, the use of dry grass clippings also plays an important role. If there is any bare areas on the pitch, clippings should be spread over these areas. As these areas are usually quite damp, throwing clippings over the area makes for a better presentation of the pitch. It also prevents the soil sticking to the roller.

When sealing the pitch, work your way across the pitch at least twice. That is, start at the edge of the string line going up the line and working back across the pitch until you get up the edge of the other string line. Work back to where you started. This usually takes about 10 minutes - 2 passes of the pitch.

The next stage of preparation is the slow rolling. The initial slow roll is still used with the light roller and gradually changes to a heavier roller (about 2.5 - 3 tonne). Again, you work your way across the pitch and roll for about 30 minutes in the morning. This should be followed by less rolling throughout the day. (20 minutes) You only need to slow roll 3 to 4 times a day as the weather plays an important part in the drying of the wickets. Slow rolling will gradually bring the moisture to the surface, making the wicket compact and not breaking open too early (cracks).

Under extreme conditions (hot weather) the pitch will possibly need to be watered a few times. By re-watering the pitch, this stops the cracks from opening up. Water will close the cracks. The soil shrinks when dry and expands when wet. The hand watering of the pitch is again done with a hand-hose with a fish mouth nozzle. Experiment with the watering. You could do 2 passes, that is walk up the pitch getting an even coverage, using the fan effect of the spray, then walk back down the pitch doing the same thing. If the pitch dries too quickly then water again. Once satisfied then re-seal the pitch and resume slow rolling. The re-sealing also helps to push more grass into the surface of the pitch and as the pitch dries it becomes shinier and white looking.

Each day leading up to the start of play, cut the pitch at 4mm and if there is dew on the surface roll

this moisture into the pitch as it will push more grass into the pitch.

This will again provide a shinier white surface as it starts to dry and will provide good pace and bounce for entertaining cricket.

The day before or the morning before the game starts cut and roll the wickets and mark out the pitch (stump to stump is 20.12 metres), then hand over the wicket to the umpires.

2ND WEEK OF PREPARATION

As soon as play has finished, clean the pitch using industrial vacuums or a stiff broom. The next procedure is to irrigate the pitch block. Do not over irrigate the block. There is no need to flood the pitches, if this happens a lot of run-off will be wasted. Do some tests on the pitch block by using measuring cups. This will tell you the amount of mm you need. On a 5 pitch block this could mean 5mm over 20 minutes. More water will be needed initially when you have completed the first irrigation, then let it soak into the soil. This initial watering takes place on the Saturday night or Sunday after this, to less frequent watering. Again, do more tests. (eg 6 minutes or 2mm)

Late Tuesday (early in the season) or Wednesday (when the weather warms up) put out the string lines on the pitch being used and cut it at 6mm. Again, irrigate the pitch block if the pitch is not even in water coverage, then get out your hand-hose with the fish mouth nozzle and even up the moisture in the pitch.

The next stage, when the pitch dries out is to then re-seal the pitch. There is no need to work-up the pitch the 2nd week of the game. This could be done on the Wednesday or Thursday morning.

During the 2nd week of preparation, the pitch to be played on for the next game can be worked up. If you start on pitch No 1 then work-up Pitch 3. By working up this pitch it means that you are planning ahead by a week. Once the pitch is worked-up, seal it, slow roll it once and then water back in. During the next week of preparation all you have to do is seal the wicket (cut it before you seal).

HEIGHT OF CUT FOR WORKING UP THE WICKET

It is important not to cut the pitch to be used too short before the work-up. 6mm is a good height. During the work-up, use the light roller to your advantage. It is more important to spend more time on the roller pushing the grass into clay, as this will also keep the moisture in the pitch during preparation. The other advantage is that there will be a better recovery on the pitch. Remember the pitches will be used more than once.

COMPLETION OF THE MATCH

Clean the pitch and set your irrigation. The pitch that has just been used needs to be repaired. The foot holes need to be sprigged and re-leveled using pea-size clay (10mm). Let the grass recover in the foot holes then do this. The pea-size clay can be slowly broken down with water and raking, allowing the grass shoots to come through the clay.

WATERING THE PITCHES NOT IN USE

During the preparation of the pitch it is important to keep the other pitches moist by hand watering. This can be done each day, preferably in the morning or at night. It is important to be careful with water restrictions, so use water wisely.

FERTILISING

The use of a balanced NPK fertiliser with low-salt index and higher in potassium leading into winter, strengthens the grass.

Nitrogen during the season to promote leaf growth and recovery.

Phosphorus leading into the summer to encourage root development.

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| Examples: | 16-10-9 | Spring time - high phosphorous and potassium needed to promote vigorous growth and root development |
| | 28-1-4 | High nitrogen to promote leaf growth during season |
| | 19-1-16 | Going into winter - high K - to strengthen turf into winter and help come out of dormancy in spring. |

The use of controlled release fertilisers will slowly release over a period of time, 6-8 weeks in some cases. This provides a uniform cover and doesn't give an instant build up of the grass mat which could become quite thick.

Clay soils do not require large amounts of phosphorous as they do not leach out and can become a problem in the future.

Another way to work out what fertilisers are required is to have a soil test done.

VERTIMOWING OR GROOMING OF PITCHES DURING SEASON

It is a good idea to lightly verti-mow or groom the wickets during the season. This helps the mat of grass not to build up too quickly. If the turf is too thick then it will make it difficult to work-up the wicket. By regular grooming this will provide a quality playing surface, ensuring good bounce and pace, a traditional Perth pitch, as they say. For this job we recommend verti-mower blades 1.5mm thickness set 10-15mm apart and scratching soil surface.

CORING OR DRILLING

This relieves layering and compaction of the pitches and provides fresh air into the holes. It ensures efficient watering also and helps with cracking problems.

WINTER SPORT PLAYED ON THE PITCH BLOCK

If there is football, soccer, hockey etc. played across the pitch block then leave the renovation until the winter sport has finished. This would then mean spring.

CONCLUSION

As I said in the introduction, this is only a guideline to Perth pitches. Use this information, but also if you have any ideas, use them, have confidence and experiment with your preparation.

I think it would be a good idea for any Curators in the metropolitan area or the country to contact one another, swap ideas. This should ultimately lead to better quality pitches and makes for more entertaining cricket in the long term.

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