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SCOTCH COLLEGE ENVIRONMENT MANAGEMENT NEWSLETTER

Yellow turns to green on our ovals as the weather warms

If you visited Scotch in early spring — in particular over the Term 3 holidays — you would probably have noticed the distinct yellow colour of many of our ovals. So accustomed are we to the beautiful green expanses of Scotch, that when green turns to slightly yellow, an explanation is required.

'There was really no cause for alarm,' Scotch Curator Michael Smith told *Environs*. 'It was all part of Scotch's "two grass" policy. The idea is this: in winter our ovals are oversown with rye grass, which maintains the rich green colour we're used to. Without the rye grass, the ovals would take on the light brown to yellow colour you see during winter on many Melbourne suburban grounds, where the oversowing doesn't take place.'

Michael Smith said in spring the rye grass is eradicated, allowing drought-tolerant couch to come through and take its place. 'However, couch requires a soil temperature of about 21 degrees C to spark real growth,' Michael said, 'and throughout much of spring the soil temperature hovered around 14 to 15 degrees. This meant that the yellowing rye grass was still in evidence while the couch continued its winter "slumber".'

'Removing the rye (cool season grass) enabled the couch (warm season grass) to sprout and photosynthesise, and as the weather finally showed signs of warming, the soil correspondingly warmed and the couch began to take over from the rye. Yellow turned to the more familiar green of our beautiful ovals, which we can now see.'

ABOVE: Michael Smith checks the ground temperature on the Main Oval

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More water for our beautiful grounds

After the cool, wet spring Melbourne experienced this year — more like an extension of winter than a 'real' spring — it's easy to forget that in 2015 Melbourne went through its hottest start to spring since records were first kept in the 1850s. Looking nationally, the springs of 2013, 2014 and 2015 were the three warmest on record, with October 2015 the hottest October in recorded history.

The hot, dry spring of 2015 prompted Scotch to consider options for acquiring more water for irrigating the grounds, aiming to minimise still further its partial dependence on mains water. One option was to investigate if more water could be drawn from Gardiners Creek, from which Scotch was entitled to draw six million litres (megalitres) each year. In times of need, this water was pumped from the creek into the tanks under the McKendrick (soccer) and Melville (Lower) Ovals to add to stormwater run-off from the campus flowing into the tanks, which have a combined capacity of 5.4 megalitres.

Research by Curator Michael Smith revealed that a nursery located in Olinda owned annual drawing rights of 20 megalitres from a tributary of the Yarra — and the great news was that after discussions with Michael Smith, the nursery was willing to sell its rights to Scotch with a once-off payment.

'It was a deal that was great for both parties,' Michael told *Environs*. 'From Scotch's viewpoint, we were very pleased to gain increased annual drawing rights of up to 26 megalitres from Gardiners Creek,' he said. 'It means that in times of normal stream flow, together with run-off from the campus grounds, Scotch can reduce our dependence on mains water for irrigation for many years to come.'

Michael Smith said regular top-up of Scotch's tanks can never be guaranteed throughout the summer months, but the additional 20 megalitres will certainly enable that to occur. 'When that happens, the surplus water from the tanks will be filtered and piped back into the creek, providing cleaner water back into our waterways. So that's another great environmental outcome,' Michael said.

'In short, Scotch's increased creek water allocation will help to keep our ovals green and garden beds flourishing,' he said. 'It's another positive step towards minimising our use of mains water for irrigation.'

ABOVE: Junior School boys with teacher Andrew Strempel.

Junior School boys' role in planting project at Elliott Lodge

Scotch Scouts attending their September camp at Scotch's beautiful 80 hectare Elliott Lodge property, 9km from Healesville, were the first large group to visit the property since the completion of the first three stages of the Elliott Lodge master plan.

The three stages have included a new ablutions block, a full-scale effluent treatment plant and a 260,000 litre holding tank (stage one); a new purpose-built mess hall with commercial catering facilities for up to 100 people (stage two); and refurbishment of the original lodge, coverting the interior to improved bunkhouse accommodation, installation of new shower and toilet facilities and a dedicated first aid facility. The Lodge building is now a comfortable lounge/living space.

The fourth and final stage of the master plan is now being implemented, which is a landscaping project to replace vegetation removed during the construction phases. Junior School boys are participating in the planting project as part of their environmental science studies, under the supervision of Property and Facility Manager, Bill Sciarretta, Junior School teachers Steve Grbac and Andrew Strempel, and Scotch's project architect, Doug Pattenden. The boys have planted ground cover shrubs which Steve Grbac obtained through his participation in the Boroondara Environmental Schools Network.

LED lighting spreads through the school

Scotch has made considerable progress in installing light-emitting diode (LED) hi-bay light fittings throughout the school. Recently LED lights were fitted in the Randall Building, the Lithgow Centre (atrium and ground floor staff common room, and the north and south study on the first floor) and the Junior School Art Room.

Greg McMahon, Scotch's Maintenance Manager, who supervised the retrofit installation in the Randall Building, the Lithgow Centre and the Junior School Art Room, said LED lights have also been installed in the new Sir Zelman Cowen Centre for Science. 'This includes the feature strip lighting around the balconies,' he said.

'All the lights in the building have sensors which turn lights on and off when people enter or leave rooms. The lighting is also linked to projector controls which dim or turn out lights when the AV projectors are in use. All the lighting in the Centre for Science is fully programmable, to adapt to any occasion or special use,' Greg said.

The latest lighting upgrades and installations follow the upgrade to LED lighting in the Glenn Centre's upper gym (July 2014) and lower gym (March 2015), reported in the previous edition of *Environs*.

Incandescent lamps (light bulbs) generate light by passing electric current through a resistive filament, heating the filament to a very high temperature so that it glows and emits visible light over a broad range of wavelengths. LED lights contain a semiconductor device that converts electricity into light. They are highly efficient, long-lasting, and use about 85 per cent less energy than halogen or incandescent lighting. There are also fewer environmental concerns linked to their disposal.

'Once LED lights are installed throughout the school there will be substantial savings, compared with the running costs and replacement of standard type globes and fittings,' Greg McMahon said.

ABOVE: Year 10 Boys with indigenous plants on the Sir Zelman Cowen Centre for Science rooftop

A place for indigenous plants in the Centre for Science

In the rooftop garden of the new Sir Zelman Cowen Centre for Science and in the landscaping around the building are plant species indigenous to the Melbourne area, which are well adapted to the local climate and conditions.

More specifically, they are plants that are found in a floodplain riparian woodland, which is the ecosystem that would have been present on the Scotch site when Europeans first colonised the area. Plaques identifying the species used can be seen around the building. The plants will be used as a teaching display in Environmental Science and Biology.

As they mature, the plants will provide valuable resources and habitat for native fauna such as birds and beneficial insects.

The Centre for Science features many other environmental features, including solar, wind and rainwater harvesting, helping to reduce power load and energy consumption in the building. As part of their studies, boys are monitoring the energy savings on interactive screens in the centre's Atrium.

ABOVE: Planter beds on the Centre for Science rooftop

Young red gums thriving alongside the Meares

River red gum seedlings propagated by Scotch boys in Environmental Science classes have now been planted around the Meares Oval.

The boys collected seeds from the beautiful river red gums (*Eucalyptus camaldulensis*) growing near the Montgomery tennis and hockey courts and propagated the seedlings. These very old trees pre-date Scotch's establishment on the Hawthorn Glen site in the early 20th century.

Grounds department staff member, David Brennan, said Scotch purchased another 90 red gum seedlings to add to the young river red gums propagated by the boys. 'David Kingsley from the Grounds staff and I planted them as part of a major planting program around the Meares,' David Brennan said. David Kingsley added: 'We think the young trees should adapt well to the good conditions at Scotch, and in the future there will be a beautiful canopy of native red gums around the oval.'

The iconically Australian river red gum can grow to 45 metres in height, and is a familiar tree along many watercourses right across inland Australia. The tree produces welcome shade in the extreme temperatures of central Australia, and plays an important role in stabilising river banks.

TOP: David Kingsley (left) and David Brennan planting red gums

ABOVE: Year 10 boys with Head of Biology Matthew Manning next to the Meares