## Head Greenkeepers Report Life After Chemicals

After the removal of Carbendazim (last worm control product) in 2016 then the removal of Iprodione (last powerful contact fungicide) in 2017, the EU Commission has now decided to not renew the approval for the fungicide active ingredient Propiconazole. Propiconazole is a broad-spectrum fungicide and is used to treat a wide range of turf diseases such as Fusarium Patch, Dollar Spot, Anthracnose and Brown patch. This will remove the Syngenta products Banner Max, Headway & Instrata from the market. The removal of Instrata also sees the removal of another key active ingredient in Chlorothalonil. This leaves us now with very little in the battle against Microdochium patch (Fusarium) through the Autumn and Winter. Historically the greens at P&B have been Annual meadow grass based with an excess thatch layer. This is highly susceptible to Fusarium and with a heavy thatch layer gives the pathogens the ideal breeding ground. The August maintenance week & Symbio Biology programme initiated in 2017 are vital in our cultural fight. Removal of thatch through hollow coring and scarifying and back filling with sand will improve surface dryness and firmness and removes the pathogens breeding ground. Applying biology through Compost Tea and products like Bio tabs, Thatcheater and Resistor whilst helping to naturally degrade thatch and convert it into available nutrients it also boosts the beneficial microbe levels to try outcompete the disease causing ones.

Our over seeding programme using brow top bent cultivars drilled into the greens with the Vreedo overseeder, has seen a marked gain in the amount of bent grass in the greens composition. Bent grass is far less susceptible to Fusarium disease so with the loss of propiconazole it is vital that we continue this programme. Last year we applied 100kg at a cost of £1800. I was also lucky enough to borrow the drill from Royal St David's G.C in 2017, this ,however, is not an option this season and along with a need to increase the amount of seed we purchase I think purchase of a seed drill is great news and will be vital going forward. We are progressing well with the greens but there is still work to be done to get them to a position where they are much less susceptible to disease outbreaks.

The removal of carbendazim the last worm control product in 2016 has made it very difficult to mow tees, fairways and green surrounds during the autumn/winter months as the rollers and wheels on the machinery smear the casts killing the grass underneath and preparing a perfect seed bed for weeds to grow in. The worms secrete a mucus into the soil that forms the cast making the surface slippy and wet after rainfall even if the actual soil underneath is dry and firm which can force course closures. To help with this issue we need to continue with our tree removal programme to get light and air movement around all fine turf areas along with sand topdressing. To initiate topdressing programmes on tees and approaches would require purchasing a further 200t of sand per year at a cost of £7000. Iprodione was banned in 2017 and as mentioned above was the last powerful, curative contact fungicide which when applied at any stage of the disease would give effective control. The fungicides left need to be applied at the very early signs of infection or preventively to work, this isn't always possible due to weather conditions and budgets. This September to December has seen some of the highest disease pressure in recent years and even with us being as diligent as possible in our course inspections and trying to keep disease damage to a minimum we have suffered some small patches of scarring. With the removal of Propiconazole it is going to be very difficult to keep greens surfaces clean and scar free in the coming years. The greens team will continue to push forward with our improvement programme but producing good disease free surfaces through the autumn/winter is going to become very difficult.