

Bringing back the bees



Dr Terry Mabbett looks at how Operation Pollinator is making an impact at golf clubs nationwide and asks, what's really in it for the greenkeeper?

Operation Pollinator sounds like a mission and in many respects that's just what it is. Its underlying aim is to wage war on the disappearance of bees from the landscape and offer them the best possible incentives to return.

This is being achieved by sowing the broadest range of pollen and nectar rich flowers to suit the tastes of the widest spectrum of these Hymenopterous (bees and wasps) insects. The essential difference is that instead of concentrating on traditional targets like meadows, natural downland and grass verges, Operation Pollinator focuses on golf courses by seeding out of play areas with a rich mix of annual and perennial flowering plants.

Operation Pollinator is the brainchild of Syngenta but has become a golf industry initiative in implementation. "It is a valuable opportunity for the golf industry to play a pivotal role in saving the bee population," said Caroline Carroll, Marketing Communications Manager at Syngenta.

"Golf courses can be real oasis for wildlife. Most have land resources and skilled managers that can create the habitat to encourage populations of bees and pollinating insects, without impinging on their members' play."

Golf courses are perhaps a better resource than other more traditional wild flower sites like grass verges. Indeed a recent report by the charity Plantlife drew attention to the ongoing deterioration of grass verges as habitats for wild flowers and pollinating insects caused by councils cutting too frequently.

The Operation Pollinator concept has its roots in a much earlier agricultural initiative, to establish wildflower and pollinating insect sanctuaries in field margins. The programme itself is based on knowledge and experience gained from the scientifically acclaimed 'Buzz Project', with over four years of field trials conducted by independent researchers.

So what are its objectives? Caroline explained: "The aim of Operation Pollinator is to establish





Managers can create the habitat to encourage bees and other pollinating insects without impinging on members play. Undisturbed rough around the course at Bowood Golf and Country Club in Wiltshire (Picture Syngenta)



a total of 250 hectares of pollen and nectar rich habitat across 500 golf courses in the UK and Ireland, to provide essential food sources and nesting sites for pollinating insects and especially bumblebees and wild bees in general.

“For members there is an enhanced visual and playing experience, and for managers a fast response to their endeavours. Experience shows an Operation Pollinator programme can deliver beneficial results and effects 60% quicker than conventional management techniques”.

What's being done?

Operation Pollinator sites are established on free draining soils receiving sufficient light to encourage and promote both flowering and insect activity. South facing sites are ideal, whilst cold, north-facing sites with inherently prolonged wetness should be avoided. Site selection is based on these environmental and ecological considerations.

Out of play and undisturbed rough, alongside water resources, on fairway carries, alongside walkways between holes, around the backs of greens and woodland margins are all prime sites. Sites at the woodland edge, along hedge lines and across sunny banks will furnish additional nesting habitats for bumble bees and other pollinating insects.

Seed mix selection is very much a 'horses for courses' choice with

Operation Pollinator recommending, rather than dictating, appropriate species combinations. Three seed mixtures - Parkland, Heathland and Links - are recommended with the exact species formulation created by specialist ecologists and entomologists, in conjunction with golf course designers and agronomists.

Syngenta is not prescriptive in its approach to seed mix selection and choice. “We simply recommend these mixtures as a template, but courses do not have to use them”, said Caroline. “Greenkeepers know their courses best and from experience what species of wild flowering plants are already established and thriving.”

Different species of plant obviously have different requirements, revolving around factors like soil pH and nutrient status, while different species of bees clearly have differing flower and food requirements dictated by flower morphology (shape and structure).

But courses should aim for plant species and an overall selection with established successful flower formation and display extending over the longest possible period of flowering.

According to Syngenta the speed and end result of habitat creation will largely depend on whether a course uses a perennial or annual plant seed selection. Perennial plants will not yield much in the way of flowers during the first year,

while picking up in the second year and coming into their prime in year three onwards. Courses wanting a quick fix and to get members engaged in the project could initially opt for annuals, to provide a fast stunning display and quick source of pollen and nectar in the year of planting. The question is, what will come up the following year depending how successful self-seeding has been?

This is an instance where greenkeepers can take the initiative and develop an appropriate mix of perennials and annuals according to the course, their experience of wild flowers and of course their particular preferences. Some courses are opting for non-wild annual flower mixes giving stunning displays of cosmos daisies and other garden Asteraceae (Compositae) which are 'honeypots' for bees. Wildlife organisations and purists might be a bit 'sniffy' about sowing non-native species, but after all golf courses are not universally natural landscapes and many feature trees species from across the world.

And it's not all about flowers because these mainly dicot (broad-leaved) species will be growing within grass swards. Grass sward composition will have significant impact on seedling establishment and flowering success and therefore the visual and entomological impact of the end result. Caroline recommends encouragement of fescue grasses over rough grasses,



like Yorkshire Fog (*Holcus lanatus*), in roughs. Not only will there be a better seeding success rate but the end result will look much better if the flowers are borne in a wispy open fine rough with fescue panicles blowing in the wind.

Who's in?

Caroline says 42 clubs are signed up and when the Marriott hotel group comes on board next year this number will rise to over 50. And you don't have to be in Operation Pollinator to be doing the right thing. "Kings Hill Golf Club in Kent, for example, is doing everything within the objectives of Operation Pollinator without actually being part of it. However, the more that become part of the initiative, the greater weight it carries in promoting golf's true potential for ecological enhancement."

Syngenta has identified the following clubs as carrying out best practice and designated them Operation Pollinator 'Champions': Bowood Golf and Country Club, Cleveland Golf Club, Chesterfield Golf Club, Hanbury Manor Golf and Country Club, Hockley Golf Club, London Golf Club, Massereene Golf Club, Minchinhampton Golf Club, Naas Golf Club, Rutland County Golf Club, St Andrews Links Eden Course and The Grove.

Many greenkeepers are clearly

enthused and already convinced of the worth of the Operation Pollinator Programme. Steve Thompson, greenkeeper at John O' Gaunt Golf Club, said: "As we establish more wildflower areas around the course, the aim is that it will add to the experience of playing in a natural environment."

What's in it for greenkeepers?

The success of Operation Pollinator ultimately rests with the level of enthusiasm shown by greenkeepers, and bluntly - what's in it for them.

Good results from an Operation Pollinator programme will clearly raise the profile of the whole course management team giving a sense of pride and motivation. Enhancement of knowledge and skills is clearly a major benefit.

One benefit perhaps not automatically obvious is the incentive to properly manage rough through 'rescue of the fescue'. Operation Pollinator should automatically increase the level of care when applying fertiliser and pesticide with more careful targeting providing better effect and less waste.

It will give greenkeepers a broader and stronger profile for improved career development at the club or elsewhere. Last and perhaps most importantly it provides a way of engaging members and the club

ABOVE: Wispy, open fine fescue rough at Kings Hill, West Malling (Picture Syngenta)

TOP RIGHT: *Bombus pascuorum* on Greater Plantain (*Plantago major*) (Picture Syngenta)

RIGHT: Annual garden flower mixes (including cosmos daisy shown here) give a quick colourful show which is highly attractive to bees and other pollination insects

BELOW: Bird's foot trefoil is prostrate weed of fine turf but in other situations it is an upright and valuable wild flower which attracts bees (Picture Syngenta)

management, and a valuable reason to promote continuous dialogue.

And if greenkeepers doubt members are inside they should consult a survey conducted by Syngenta: 81% of players say that it is important to have a natural looking course; 60% are not satisfied with environmental initiatives on their course; and 74% strongly agree with the statement "I enjoy seeing wildlife - birds, bees and butterflies - when I play."

Caroline concluded: "If a club creates just 0.5 ha of Operation Pollinator it is the same effect as 600 club members sowing a 2 x 4 m flower border at home."





Ely City gets the buzz of promoting pollinators

The Operation Pollinator wildflower areas established at Ely City Golf Club have generated many very positive comments from members over the summer, reported the club's Deputy Head Greenkeeper and environmental champion, Simon Winters (above).

He believed a key aspect of its success has been the highly visible location of blocks selected for wildflowers - on the walkthrough to the tee for the 15th and surrounding the back of the green - meaning players are fully immersed in the colour and buzz of insect activity in the clearly signposted areas. Secondly, the decision to sow a mix of flowering annuals in the first year has created a blaze of colour and an instant response in pollinator and insect numbers.

"We have also been very proactive with telling the members what we are doing," he said. "Having got them engaged with the initiative and its objectives, and demonstrating quickly what could be achieved, they are very keen for more and to see it extended."

Whilst the wildflower areas have been focused on Sherriff Amenity annual seed mixes so far, Simon is keen to incorporate more native perennial wildflowers into the areas in the future. "The annuals have worked incredibly well and proven a big attraction for insects and players, but they will need to be recultivated and sown each year. That carries a cost and time element that is fine on a small scale, but could prove prohibitive on the larger Operation Pollinator ecological areas scheduled for the coming years.

"Adding and developing areas of native perennial wildflower mix will add ecological diversity and a more natural appearance, and will also be easier to manage in the long-term."

He added that the initiative has generated real interest and enthusiasm among the greenkeeping team. "Our first priority is producing the best possible playing surface. That has really improved over recent seasons and is now looking better than ever, which gives us the chance to give extra attention to the Operation Pollinator areas."

Although the course covers just 94 acres in total, Simon and Course Manager, Andy Baker, identified a number of areas where wildflower could be established without interfering with play, and still providing a visual enhancement to players' rounds.

Andy added: "I believe our experience shows that Operation Pollinator could be incorporated onto every golf course, and would add a beneficial feature for the environment, the greenkeeping team and the players, as well as the golf industry as a whole."

