

SPONSORS PERSPECTIVE

Dr Roger Williams, Assistant Research Director for the HGCA, one of the major funders of SAFFIE said: "the HGCA is committed to supporting cereal growers with independent information based on robust experimentation. SAFFIE is an excellent example of a multi-disciplinary project providing objective data on the impact of crop husbandry on biodiversity. Results from this work will enable cereal growers to make informed decisions about how they manage their crops to benefit the environment as well as their bank balance".

Ms June Edney, Biodiversity Projects Manager at the CPA, the lead industry funder for SAFFIE said: "the CPA will be leading on the technology transfer aspect of SAFFIE research, helping advisors to promote undrilled patches and complementary field margin management to cereal growers across the country. SAFFIE is a hugely important project for the Voluntary Initiative".

Demonstrations of SAFFIE

The results so far from SAFFIE will be discussed at a special science and media day at ADAS Boxworth on 8th June 2004

SAFFIE will also be discussed at farmer open days hosted by BASF on 28-29th June 2004,

Agrovista on 1st July 2004, and at Masstock Smart farms during June and July 2004

Please contact June Edney for more details 07736 610223
or june.e@cropprotection.org.uk

VISITING SITES

Are you interested in visiting a SAFFIE farm site near by at a time to suit you?

Please contact Sue Ogilvy 01944 738 646, sue.ogilvy@adas.co.uk
For further information on SAFFIE please see www.saffie.info

Project partners:

ADAS, British Potato Council, British Trust for Ornithology, Centre for Agri-Environmental Research (University of Reading), Centre for Ecology and Hydrology, Crop Protection Association, Central Science Laboratory, Game Conservancy Trust, Home Grown Cereal Authority, Linking Environment and Farming, National Trust, Jonathan Tipples, Royal Society for the Protection of Birds, Scottish Agriculture College, Sainsbury's, Safeway & Syngenta

Government Sponsors:

Department of Environment, Food and Rural Affairs, SEERAD, English Nature (LK0926)

SAFFIE

Sustainable Arable Farming
For an Improved Environment



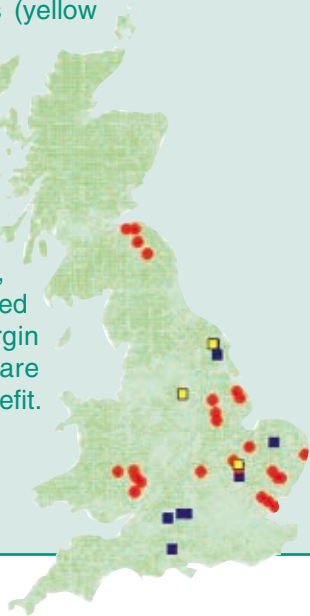
CROP PROTECTION ASSOCIATION SAFFIE NEWSLETTER UPDATE JUNE 2004

What is SAFFIE?

SAFFIE is a five year joint industry, academic and government collaborative project. The aim is to enhance biodiversity in and around winter wheat crops by integrating novel habitat management practices within the crop and in non-cropped field margins without compromising yields or profitability.

It involves 26 farms (represented by red dots) along with 10 other sites (yellow and blue squares) across England and Scotland. In total over 900 ha are dedicated to this project until 2006.

Wider spaced rows, undrilled patches, advanced ICM and field margin management regimes are being studied for cost:benefit.



CROP MANAGEMENT

Undrilled patches – best option

Preliminary research from the first 2 years has demonstrated that 49% more skylark fledglings could be produced per year where undrilled patches are left in the crop. Skylarks are able to raise several broods in spring cereals, but breeding opportunities in conventionally grown winter wheat are limited as the crop becomes too tall and dense to allow access for nesting and feeding.

The novel practice of leaving undrilled patches (UP) has benefited skylarks in a number of ways.

SAFFIE Project Co-ordinator Sue Ogilvy explains: "So far, with two undrilled patches per hectare, we have seen more singing males and more nests that were maintained for longer, with fewer nest failures, higher clutch sizes and more skylark nestlings produced per breeding attempt". In June, the density of territorial males on fully drilled fields was 30% lower than on the fields with two undrilled 4m x 4m patches per hectare, while the density of nests was nearly twice that found on conventional fields.

Flies and beetles also seemed to prefer the patches which is good news not just for skylarks but also other species like grey partridge and lapwing which feed on these insects.



Undrilled Patch (UP) © RSPB



Skylark Chick © RSPB

FIELD MARGIN MANAGEMENT

Margin management is a key component of agri-environment schemes, but what should farmers plant in their margins and how should they manage them to benefit biodiversity. In SAFFIE, we are comparing three margin seed mixes, which include combinations of tussock grass or fine grass with wild flowers, to see which gives the most diverse plant, insect and bird life at three research sites, ADAS Boxworth, High Mowthorpe and Gleadthorpe. The margins have either been cut, scarified to give some soil disturbance or sprayed with a grass weed herbicide to suppress growth, in the spring.

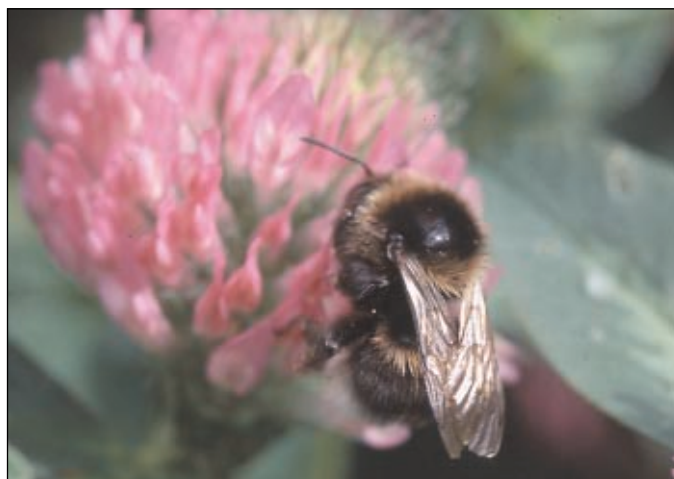


Tussock grass + forb plot at ADAS High Mowthorpe, treated with fluazifop-P-butyl © ADAS

Bees and butterflies

In recent years many species of bumblebee and butterfly have shown serious declines in the British countryside. Bumblebees provide an essential pollination service for many crops and wildflowers. The SAFFIE Project has shown that sowing arable field margins with seed mixtures containing appropriate wildflowers (e.g. Bird's-foot trefoil, Knapweed, Teasel) doubles the abundance and number of species of bumblebees. A rare biodiversity action plan (BAP) listed bumblebee (*Bombus ruderatus*), was recorded on one of the SAFFIE margins in 2003.

Butterflies have doubled showing that the project is providing important breeding habitat for several species. We expect that the value of SAFFIE margins for bumblebees and butterflies will continue to improve under such innovative practices.



Bombus ruderatus © Mike Edwards

Plants

The plant communities in the margins, which are different with each seed mix, are starting to show the effects of the management treatments. Scarification has opened up the vegetation and increased the area of bare ground. Cutting has increased sward density, whilst the application of the grass weed killer fluazifop-P-butyl (Fusilade®) has suppressed the productivity and flowering of some of the more vigorous grass species.

Insects and spiders

Insects and spiders were surveyed in the margins, and the species found varied with the seed mix and the site. The most insects and spiders were found between June and September. Emerging trends indicated that different sown mixtures are favoured by particular invertebrate groups. At High Mowthorpe, there were fewer beetles in the fine grass mix compared with the other margin mixes, and there were more spiders in the tussock seed mix across all sites.

NEXT STEPS

The main thrust of the ongoing work is to look at the integrated effects on biodiversity of combining undrilled patches and margins in the same field on 26 commercial farms. The monitoring work will continue until summer 2006. We are also continuing to look at different combinations of herbicides, hoeing, wide-spaced rows and conventional rows in small plot experiments, to determine the best ways to increase the abundance and availability of beneficial plant species and invertebrates.

The combination of detailed crop experiments and intensive monitoring of the biodiversity in the SAFFIE fields and margins will provide the scientific base on which future decisions on crop and margin management for the benefit of wildlife can be made.