Case studies

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Here are some examples of different types of farm businesses in Scotland and how the Greening requirements affect them with EFA requirements set at 5% of arable land and the only businesses deemed compliant are for Organic land or for business with 15 hectares or less of arable land. This might help you when considering your Greening requirements.

Case study one – arable farm

Jack Smith is an arable farmer with 100 hectares of cropped land (arable) and 50 hectares of permanent grassland. He needs to consider each of the greening elements.

He chooses to grow to the following crops -

- 30 hectares winter wheat
- 25 hectares spring barley
- 24 hectares winter oilseed rape
- 4.40 hectares field beans + 0.6 hectares TGRS (associated EFA margins)
- 2.44 hectares peas + 0.36 hectares TGRS (associated EFA margins)
- 6 hectares seed potatoes
- 7 hectares fallow – (EFA fallow)

Using the table provided for EFA (Annex A), he also confirmed that to meet the EFA requirement he needs at least 5 hectares of EFA equivalent (100 hectares of arable land x 5% = 5 hectares)

Jack could meet his EFA obligation with one of the following options –

Fallow

5 hectares of EFAFAL (5 hectares x 1 = 5 hectares EFA)

Jack's farm currently meets its EFA requirement by having seven hectares of fallow land.

However, if he decided to choose the EFA fallow prescription, he must decide between establishing a wild flower mix or a wild bird seed mix or a soil conditioning crop. Or if he is using his Temporary Grassland (TGRS) for his fallow, it must have at least three flowering species.

Alternatively, there are other ways in which he can meet his EFA requirements

Margin

3.4 hectares of EFAM (3.4 hectares x 1.5 = 5.1 hectares EFA)

Note margins must now be at least 3 metres wide and where a new margin comprising a grass sward is being created, it must be a diverse grass sward containing pollen bearing plants.

Please note: if Jack includes any of his permanent grassland area as EFA i.e. a margin, this will mean that the area of EFA on his permanent grassland will now be classed as arable land. He must claim it as Permanent Cover (PC) on his Single Application Form and it will be added to his total arable area calculation, effectively increasing his EFA requirement.

N-Fix & margin

Jack has the following - 6.84 hectares of EFANIX (field beans 4.4 hectares x 1.0 = 4.40 hectares and associated EFAM which is 3 metre wide = 0.6 hectares x 1.5 = 0.9 hectares) and (peas 2.44 hectares x 1.0 = 2.44 hectares and associated EFAM which is 3 metre wide = 0.36 hectares x 1.5 = 0.54 hectares).

Totalling an EFA equivalent 8.28 hectares EFA.

For this option, Jack can decide not to claim all of his nitrogen fixing crops and margins as EFA, just what he requires to makes up the 5 hectares. This could be 3 hectares field beans with 1 hectares peas and 1 hectares of margins to meet his greening requirement of 5 hectares.

Catch crop

16.7 hectares of EFACC (16.7 hectares x 0.3 = 5.01 hectares EFA)

The range of crops which can be under-sown has been expanded so Jack could under sow his 24 hectares oilseed rape.

Green cover

16.7 hectares of EFAGC (16.7 hectares x 0.3 = 5.01 hectares EFA)

The list of cover crops has been expanded and the restriction on grazing removed so Jack could sow a green cover mix after the harvesting of his 25 hectares of spring barley.

This is not an exhaustive list of options available to Jack, just are examples of how he may choose to meet his EFA requirement.

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Case study two – dairy farm

Neil Groves is a dairy farmer with 200 hectares of which 20 hectares is spring barley and 180 hectares is temporary grass.

Using the table provided for EFA (Annex A), Neil confirmed that to meet the EFA requirement he needs at least 10 hectares EFA equivalent (200 hectares of arable land x 5% = 10 hectares).

Neil could meet his EFA obligation with one of the following options –

Margins

6.67 hectares of EFAM (6.67 hectares x 1.5 = 10 hectares)

These margins must be between 3 metres and 20 metres wide and adjacent to arable land (all Neil's land is arable). Where a new margin comprising a grass sward is being created it must be a diverse grass sward containing pollen bearing plants.

Fallow

10 hectares of EFAFAL (10 hectares x 1 = 10 hectares)

Where Neil uses Temporary Grassland (TGRS) for his fallow, it must have at least three flowering species such as; bird's-foot trefoil, alsike clover, berseem clover, red clover, sweet clover, white clover, knapweed, ox-eye daisy, cornflower or vetch.

EFA Herb and Legume Rich Pasture

6.6 hectares EFAHLRP (6.66 hectares X 1.5 hectares = 10 hectares)

If Neil is establishing a new grass ley he may choose to establish a Herb and Legume Rich Pasture to increase the biodiversity on farm and reduce the amount of Nitrogen required. He must choose **at least three different herbs or legumes** for his pasture mix, the mix must include **at least 1 legume**. He could choose a mix containing Red clover, White Clover, and Plantain, along with Timothy, and Perennial Ryegrass, and Cocksfoot.

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Case study three – mixed upland farm

Hilary Chiles is a mixed upland farmer with 120 hectares of which 85 hectares is arable land (including 40 hectares of temporary grass) and 35 hectares of permanent grassland including two designated sites of Environmentally Sensitive Grassland.

Hilary needs to consider each of the greening elements:

Permanent grassland – there are 35 hectares of permanent grassland on the unit with two areas designated as Environmentally Sensitive Grassland. Hilary must ensure that the designated grassland is not converted (ploughed or cultivated) or improved. She is familiar with the land as it is designated as a Site of Special Scientific Interest (SSSI) which has been notified and regularly reviewed by Nature Scot.

She chooses to grow the following crops:

- 15 hectares spring barley, under sown with grass
- 20 hectares spring barley, not under sown
- 40 hectares of temporary grass
- 10 hectares of kale for stock feed

Hilary checked our table on EFA (Annex A) and confirmed that to meet the EFA requirement at least 4.25 hectares EFA equivalent (85 hectares of arable land x 5%= 4.25 hectares) must be managed as EFA.

Hilary's farm could meet its EFA requirement by having at least:

- 4.25 hectares of fallow land (4.25 hectares x 1 = 4.25 hectares EFA) or
- 2.84 hectares of margins (2.84 hectares x 1.5 = 4.26 hectares EFA) or
- 14.17 hectares of catch crops (14.17 hectares x 0.3 = 4.25 hectares EFA) or
- 2.84 hectares of Unharvested crop (2.84 hectares x 1.5 = 4.26 hectares EFA) or
- 2.84 hectares of Herb and Legume Rich Pastures (2.84 hectares x 1.5 = 4.26 hectares EFA) or
- 3.70 hectares of Nitrogen-fixing crops (3.70 hectares x 1. = 3.70 hectares EFA) surrounded by hectares of margins (0.37 hectares x 1.5 = 0.55 hectares EFA) (3.70 + 0.55 = 4.25 hectares EFA) Nitrogen-fixing crops must be two crops associated with a margin. The first crop must be greater than 75% of the area this could be a grassland white clover mix with over 50% weight white clover, and the balance a red clover grassland mix with more than 50% weight red clover as the two crops or
- a combination of these to meet the required EFA commitment

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Case study four – hill farm

David Logan is a hill farmer with 300 hectares of which 10 hectares is forage rape, 40 hectares temporary grass and 250 hectares permanent pasture. David previously did not have an EFA requirement but now needs to consider each of the greening elements, and manage EFA for his arable area:

He grows the following crops:

- 200 hectares Rough Grazing
- 50 hectares Permanent grassland
- 40 hectares temporary grassland
- 10 hectares of forge rape

EFA –Using the table provided for EFA (Annex A), David confirmed that to meet the EFA requirement he needs to manage at least 2.5 hectares EFA equivalent (50 hectares of arable land x 5% = 2.5 hectares).

David has 4000 metres of Hedges around his arable fields

Davids's farm could meet its EFA requirement by having at least:

EFA Hedge 100

2500 metres EFA Hedge 100 (2500 metres x 0.001= 2.5 hectares EFA). As 1 metre of hedge is equivalent to 10 metres squared

Herb and Legume rich pastures

1.67 hectares EFA Herb and Legume rich pastures (1.67 hectares x 1.5 hectares =2.5 hectares EFA)

With this new option you must ensure that there are at least three different herbs or legumes in your pasture mix as listed in the option guidance.

Or

David could choose EFA Agro-forestry Low Density Planting. If he plants this on his Permanent Grassland this increases his arable area as the PGRS has to be claimed as PC. So he has to take account of this this additional Arable area in his calculations.

David decides to plant 2 hectares of EFALDP on his PGRS this increases the amount of arable land he requires manage under EFA to (52 hectares of arable land x 5% = 2.6 hectares).

The EFA Agro-forestry Low Density Planting has a weighting of 2 (2 hectares LDP x 2 hectares Weighting = 4 hectares) so David has the equivalent of 4 hectares of EFA benefit covering his 2.6 hectares requirement.

David also checked his LPIS Viewer to ensure that none EFALDP planted on his PGRS was a SSSI and that he was conforming with the Forestry Scotland Environmental Impact Assessment rules.

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Case study five – mixed upland farm with woodland

Lucy Lavender is a Non-Organic farmer with 280 hectares, 195 hectares grass, 30 hectares of crops and 5 hectares of woodland which is managed under the Forestry Grant Scheme - Woodland creation – small or farm woodland option .

The farm has the following crops:

- 20 hectares Spring barley
- 10 hectares stubble turnips
- 25 hectares Temporary grassland
- 100 hectares Rough grassing
- 70 hectares Permanent grassland
- 5 hectares New trees

Lucy needs to consider each of the greening elements: EFA – Lucy used our table on EFA (Annex A) and does have an EFA requirement as her arable land is not organic and she has more than 15 hectares of arable land.

To meet the EFA requirement Lucy needs to manage at least 2.75 hectares EFA equivalent (55 hectares of arable land x 5%= 2.75 hectares).

Lucys farm could meet its EFA requirement by having at least:

2.75 hectares EFA Agro-forestry (EFAAF) including small and farm woodland

2.75 hectares of EFAAF (2.75 hectares x 1 = 2.75 hectares EFA)

EFA Margins

1.84 hectares of EFAM (1.84 hectares x 1.5 = 2.76 hectares EFA)

EFA Green cover (EFAGC)

9.17 hectares of EFAGC (9.17 hectares x 0.3 = 2.75 hectares EFA)

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Case study six – partially organic mixed farm

Fiona Sharp has a 200 hectare mixed farm. Half her land is organic which is deemed compliant with EFA requirements. The other 100 hectares is as follows:

- 35 hectares Permanent grassland
- 15 hectares spring barley, under sown with grass
- 20 hectares winter barley
- 40 hectares of temporary grass
- 10 hectares of turnips

EFA – Fiona used our table on EFA (Annex A) and does have an EFA requirement as she has more than 15 hectares of arable land which is not organic.

To meet the EFA requirement Fiona needs to manage at least 3.25 hectares EFA equivalent (65 hectares of arable land x 5%= 3.25 hectares).

Fiona could meet her EFA requirement by having at least:

EFA Unharvested Crop (EFAUHC)
3.25 hectares of EFAUHC (2.17 hectares x 1.5 =3.25 hectares EFA)

EFA Herb and Legume rich pastures (EFAHL)
2.17 hectares of EFAHL (2.17 hectares x 1.5 = 3.25 hectares EFA)

Or

EFA Low Input grassland (EFALI)
16.25 hectares (EFALI) (16.25 hectares x 0.2 = 3.25 hectares EFA)

This is a new option which is not eligible on Rough Grazing, and you cannot apply inorganic fertiliser or carry out supplementary feeding of forage on areas of species-rich grassland.

Or

EFA Agro-forestry Low Density Planting (EFAAFLDP)
1.63 hectares (EFALI) (1.63 hectares x 2 =3.26 hectares EFA)

This is a new option which is eligible on arable land, or Permanent Grass Land but not Rough Grazing.

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Case study seven – moorland unit

Glen Hill has an extensive 10,000 hectares moorland unit which is all Rough grazing except 100 hectares of permanent grassland.

As there is no arable land on this unit they are compliant with EFA requirements.

Case study eight – upland farm

Noah Galloway has an upland farm comprising of 1000 hectares of rough grazing and 85 hectares of permanent grassland and 5 hectares of forage rape.

Noah used our table on EFA (Annex A) and does not have an EFA requirement as he has less than 15 hectares of arable land which is not organic.

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