

Does organic farming help biodiversity and livelihoods in the hills and uplands?

Introduction

IBERS and ADAS recently completed a Defra research project assessing the biodiversity impact of organic conversion on upland farms. This was the first time detailed habitat mapping had been used to investigate the effects of different farming systems on hill and upland farms and the results obtained have implications for both conventional and organic farmers. The study also explored the socio-economic implications of organic conversion for upland farmers.

Biodiversity

Beneficial effects of organic farming practices on biodiversity have been demonstrated in a number of research projects but most have concentrated on lowland arable and stock farming. The situation for hill and upland farming continues to be unclear. Hill and upland farming is a very important part of the economy, with Less Favoured Areas accounting for 80% of agricultural land in Wales. The project aimed:

- To quantify differences in biodiversity between organic and conventional farming systems in hills and uplands.
- To assess the importance of duration under organic management.
- To assess the scale effects of conversion.
- To identify features of organic systems that are associated with biodiversity benefits in the hills and uplands.

The study farms across England and Wales were those in upland Less Favoured Areas and did not focus on the significant areas of LFA in the lowlands. The farms ranged in size (small medium and large) and were conventional and organic. The organic farms were randomly selected but included those that had been organic for a long time and some that had recently converted in order to look at any effects of the duration of organic farming.

The main conclusions of the detailed habitat surveys across the farms were that:

- Conversion to organic farming had little impact on habitat diversity
- There were some compositional changes within Improved Grasslands
- Less change within Purple Moor-grass & Rush pastures
- Results contrast with those from lowland systems
- Data needed for other groups/types.

Livelihoods

In order to quantify the socio-economic impacts, the farmers were surveyed through on farm or postal questionnaires and follow up interviews. Questions included participation in agri environment schemes, changes in income and expenditure relating to conversion, marketing methods, motivation for conversion and social networks. This study demonstrated that conversion had a positive financial impact. Main reasons for improvement came from AES/OFS payments & improved prices but there was some evidence of new added-value enterprises (on 6% of organic farms). However small sample size makes true comparisons difficult so only tentative conclusions are possible. More detailed socio-economic research targeted at a larger sample of organic and non-organic farmers in the hills and uplands of England and Wales is needed to explore more fully the validity of the findings.

Energy Options from LFA

Regardless of farming systems; managing native grassland is a challenge for most upland farmers. The low nutritional value of these swards together with declining stock numbers have led to under-grazing and abandonment becoming major threats to biodiversity in many areas. But what other land use options are available for unimproved, semi-natural vegetation? PROGRASS is a 3.5 year LIFE+ project exploring the potential of an alternative management strategy of extensive management for bio-energy. Participants heard more about this exciting new concept and had an opportunity to visit the demonstration processing plant. For more information on PROGRASS www.aber.ac.uk/en/ibers/research/divisions/bec/bec_projects/

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A yw ffermio organig yn helpu bioamrywiaeth a bywoliaethau yn y bryniau a'r ucheldir?

Cyflwyniad

Yn ddiweddar mae IBERS ac ADAS wedi cwblhau prosiect ymchwil DEFRA i asesu effaith troi'n organig ar ffermydd mynydd o ran bioamrywiaeth. Dyma'r tro cyntaf i fapio cynefinoedd manwl gael ei ddefnyddio i ymchwilio i effeithiau gwahanol systemau ffermio ar ffermydd y bryniau a'r ucheldir ac mae i'r canlyniadau a gafwyd oblygiadau i ffermwyr confensiynol ac organig fel ei gilydd. Bu'r astudiaeth hefyd yn edrych ar oblygiadau cymdeithasol-economaidd troi'n organig i ffermwyr ar yr ucheldir.

Bioamrywiaeth

Mae effeithiau buddiol arferion ffermio organig ar fioamrywiaeth wedi'u dangos mewn sawl prosiect ymchwil ond mae'r rhan fwyaf ohonynt wedi canolbwyntio ar ffermio â'r lawr gwlad a ffermio stoc. Mae'r sefyllfa ffermio ar fryniau ac ucheldir yn parhau i fod yn aneglur. Mae ffermio ar fryniau ac ucheldir yn rhan bwysig iawn o'r economi gydag Ardaloedd Llai Ffafirol yn ffurfio 80% o dir amaethyddol Cymru. Nod y prosiect oedd:

- Meintioli gwahaniaethau o ran bioamrywiaeth rhwng systemau ffermio organig a chonfensiynol yn y bryniau a'r ucheldir
- Asesu pwysigrwydd parhad o dan reolaeth organig
- Asesu effeithiau graddfa troi'n organig
- Adnabod priodoleddau systemau organig sy'n gysylltiedig â buddiannau o ran bioamrywiaeth yn y bryniau a'r ucheldir.

Y ffermydd a fu'n destun astudiaeth ar draws Cymru a Lloegr oedd y rheini mewn Ardaloedd Llai Ffafirol ucheldirol heb ffocysu ar ardaloedd llai ffafirol helaeth a geir ar lawr gwlad. Roedd y ffermydd yn amrywio o ran eu maint (bach, canolig a mawr) ac yn cynnwys rhai confensiynol ac organig. Cafodd y ffermydd organig eu dethol ar hap ond roeddent yn cynnwys y rheini sy'n organig ers amser maith.

Prif ganlyniadau'r arolygon cynefinoedd manwl a gynhaliwyd ar draws y ffermydd oedd:

- Nad oedd troi at ffermio organig yn cael fawr o effaith ar amrywiaeth cynefinoedd
- Bod rhai newidiadau cyfansoddol ar Laswelltiroedd wedi'u Gwella
- Bod llai o newid ar borfeydd rhostiroedd brwyn a glaswellt y gweunydd
- Bod y canlyniadau'n cyferbynnu â'r rheini o systemau ar lawr gwlad
- Bod angen data ar gyfer tacsas eraill

Bywoliaethau

Er mwyn mesur yr effeithiau cymdeithasol-economaidd, arolygwyd y ffermwyr trwy holiaduron ar y fferm neu drwy'r post a ddilynwyd gan gyfweiliadau. Ymhlith testunau'r cwestiynau a holwyd oedd cyfranogi o gynlluniau amaeth-amgylcheddol, newidiadau mewn incwm a gwariant sy'n gysylltiedig â throi'n organig, dulliau marchnata, yr ysgogiad i droi a rhwydweithiau cymdeithasol. Dangosodd yr astudiaeth hon fod effaith ariannol gadarnhaol yn sgil troi'n organig. Daw'r prif resymau am welliant yn sgil taliadau AES/OFS a gwell prisiau, ond roedd peth tystiolaeth o ran mentrau gwerth ychwanegol newydd (ar 6% o ffermydd organig). Fodd bynnag, mae maint bach y sampl yn golygu bod cymariaethau'n anodd, felly rhaid bod yn betrus wrth ddwyn casgliadau. Rhaid wrth ymchwil gymdeithasol-economaidd fanylach wedi'i hanelu at sampl fwy yn cynnwys ffermydd organig ac anorganig ar fryniau ac ucheldir Cymru a Lloegr i archwilio'n fwy trylwyr i ddilysrwydd y canlyniadau.

Dewisiadau Ynni i Ardaloedd Llai Ffafirol

Pa system ffermio bynnag sydd dan sylw, mae rheoli glaswelltir brodorol yn her i'r rhan fwyaf o ffermwyr ar yr ucheldir. Mae gwerth maethol isel y porfeydd hyn ynghyd â gostyngiad yn niferoedd y stoc yn golygu bod tan-bori a gadael tir yn segur wedi dod yn fygythiadau mawr i fioamrywiaeth mewn llawer o ardaloedd. Ond, pa ddewisiadau eraill sydd ar gael o ran defnydd tir ar gyfer llystyfiant lled-naturiol sydd heb ei wella? Prosiect LIFE+ 3.5 blynedd yw PROGRASS sy'n ymchwilio i bosibiliadau strategaeth rheoli amgen sy'n cynnwys rheoli helaeth ar gyfer bio-ynni. Clywodd y cyfranogwyr ragor am y cysyniad newydd cyffrous hwn a chawsant gyfle i ymweld â gwaith prosesu arddangos. Am fwy o wybodaeth am PROGRASS, ymwelwch â

www.aber.ac.uk/en/ibers/research/divisions/bec/bec_projects/

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Ni all Canolfan Organig Cymru a'i phartneriaid dderbyn cyfrifoldeb am ganlyniadau unrhyw gamau a gymerir ar sail cynnwys ei ffeithlenni na chyhoeddiadau eraill.*