

Red Meat Development Programme Alternative Forages to Control Intestinal Worms in Sheep



The Red Meat Development Programme is managed by Hybu Cig Cymru on behalf of Farming Connect. Within the programme the Institute for Biological, Environmental and Rural Sciences (IBERS), Aberystwyth University is one of three Farming Connect Red Meat Development Programme Development Farms whose role is to demonstrate new approaches and new technologies to support sustainable beef and sheep production systems.

Introduction

Internal parasites cause substantial production losses to Welsh lamb producers. Infection with parasites reduces food intake and can damage the gut lining so that badly infected animals do not thrive. Youngstock that have not developed full immunity are most vulnerable and the effects are greatest. Resistance of worms to anthelmintic drugs is becoming an increasing problem and so research at IBERS and before that at IGER has focussed on a number of practical methods to reduce worm burden in grazing sheep. One area of research that could be utilised more by farmers is the use of alternative forages.

Alternative Forages

Alternative forages include crops other than grass such as red and white clover and less common crops such as birdsfoot trefoil (*Lotus corniculatus*) and chicory. Figure 1 shows how effective these crops can be under experimental conditions.

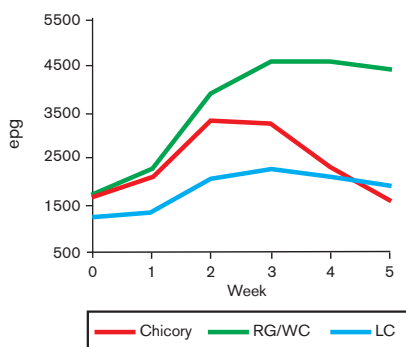


Figure 1. Faecal egg counts (epg) in lambs, naturally-infected with parasites, grazing either chicory, birdsfoot trefoil (LC) or ryegrass /white clover (RG/WC) pastures.

Nutrition

Protein nutrition is important during infection and leguminous crops are particularly good sources of high protein. Parasitism increases the demand for protein by the animal to repair damaged tissues. A diet lacking in protein will result in poor growth rates.



Chicory

Plant compounds

Many plants contain compounds that can affect the development of some organisms including parasitic worms. An example of these compounds is condensed tannins. Tannins exert their activity in the gut when they are released into the gut contents from the plant during digestion. At this point they can reduce the development of parasite worms in the gut. Furthermore, these compounds may also maintain their activity in faeces in the field and reduce egg/larval viability contained within the faeces.



Red Clover

Pasture conditions and the physical form of the plant

Sward conditions play an important role in the complex relationship between sheep and their parasites. Alternative forages have a different growth habit to grass and research has shown that this can reduce the number of larvae migrating from faeces up the plant and, thus reducing its chance to be re-ingested by sheep and breaking the parasite life-cycle.



Birdsfoot trefoil

Using alternative forages to control worm burden in the grazing situation can be a useful tool for farmers to use in their health plans, to reduce reliance on anthelmintic treatment.

However, it is important to remember that many factors can alter the risk of parasite infections in livestock, such as a change in weather conditions, so it is still important to monitor stock regularly and consult with a veterinary surgeon when required.

Rhaglen Datblygu Cig Coch Porthiant amgen i reoli llyngyr yng ngholuddion defaid



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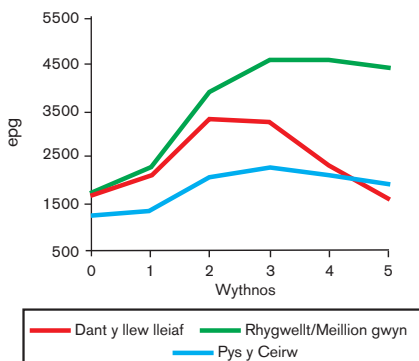
Rheolir y Rhaglen Ddatblygu Cig Coch gan Hybu Cig Cymru ar ran Cyswllt Ffermio. O fewn y rhaglen yma mae Sefydliad y Gwyddorau Biolegol, Amgylcheddol a Gwledig (IBERS), Prifysgol Aberystwyth yn un o'r tair fferm ddatblygu dan adain Rhaglen Ddatblygu Cig Coch Cyswllt Ffermio sy'n amcanu i arddangos dulliau newydd a technolegau newydd i helpu systemau cynaliadwy o gynhyrchu cig eidion a chig oen.

Cyflwyniad

Mae colledion cynhyrchu sylweddol yn cael eu hachosi i gynhyrchwyr cig oen Cymru gan baraseitiaid mewnlol. Mae heintiad gan baraseit yn golygu llai o fwyd yn cael ei gymryd i mewn, a gall niweidio llen fewnlol y perfedd fel nad yw'r anifeiliaid a heintiwyd yn ddrwg yn ffynnu. Anifeiliaid ifainc heb ddatblygu imiwnedd cyflawn sydd mewn mwyaf o berygl ac sy'n cael eu heffeithio waethaf. Mae gwrthsafiad llyngyr i gyffuriau gwrthlynghyrol yn broblem gynyddol ac felly mae ymchwil yn IBERS - a chyn hynny IGER - wedi canolbwyntio ar nifer o ffyrdd ymarferol i leihau baich llyngyr mewn defaid sy'n pori. Un agwedd o'r ymchwil y gellid ei defnyddio'n helaethach gan ffermwyr yw'r defnydd o borthiant amgen.

Porthiant amgen

Mae porthiant amgen yn cynnwys cnydau ar wahan i laswellt megis meillion coch a gwyn a chnydau llai cyffredin megis pys y ceirw (*lotus corniculatus*) a dant y llew lleiaf. Dengys llun 1 pa mor effeithiol y gall y cnydau hyn fod dan amgylchiadau arbrawf.



Llun 1. Nifer wyau ysgarthol (epg) mewn wyn a gafodd eu heintio'n naturiol efo paraseitiaid wrth iddynt bori ar borfeydd o un ai dant y llew lleiaf, pys y ceirw neu rygwellt/meillion gwyn.

Ymbortheg

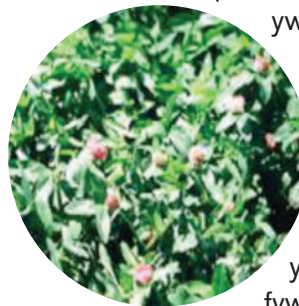
Yn ystod heintiad mae ymbortheg protein yn bwysig. Mae codlysiau yn ffynhonnell arbennig o dda o brotein uchel. Cynydda llyngyr y galw am brotein gan yr anifail i atgyweirio'r meinweoedd a niweidiwyd. Canlyniad deiet ddiffygiol mewn protein yw bod graddfa'r twf yn wael.



Dant y llew lleiaf

Planhigion cyfansawdd

Mae cyfansoddion mewn llawer o blanhigion sy'n gallu effeithio datblygiad rhai organebau gan gynnwys llyngyr paraseit. Engrhaifft o'r cyfansoddion hyn yw tannin cywasgedig. Bydd y tannin yn gweithio yn y perfedd pan y'u rhyddheir i gynhwysion y perfedd o'r planhigyn wrth i'r treulio ddigwydd. Yn ogystal fe bery'r cyfansoddion yma i weithio mewn carthion ar y cae ac maent yn lleihau faint o wyau/cynrhon sy'n fyw yn y carthion.



Meillion coch

Amodau'r borfa a chyflwr ffisegol y planhigyn

Mae gan gyflwr y gwelldglas le pwysig yn y berthynas gymhleth rhwng defaid a'u paraseitiaid. Mae gan borthiant amgen ddull gwahanol o dyfu o'i gymharu i welltglas a dengys ymchwil y gall hyn leihau'r nifer o gynrhon sy'n mudo o'r carthion i fyny'r planhigyn, ac felly'n lleihau'r tebygrwydd iddo gael ei lyncu gan ddafad ac felly'n torri ar gylch bywyd y paraseit. Gall defnyddio porthiant amgen i reoli baich cynrhon wrth bori fod yn ddull defnyddiol mewn cynlluniau iechyd, er mwyn lleihau dibyniaeth ar driniaeth gyda ffisig lladd llyngyr.



Pys y Ceirw

Er hyn mae'n bwysig cofio bod llawer o amgylchiadau'n gallu newid y perygl o heintiad mewn stoc - newid yn y tywydd er engrhaifft. Felly mae hi'n dal i fod yn bwysig i gadw llygad ar yr anifeiliaid yn rheolaidd ac i gael gair a'r milfeddyg pan mae angen.

