GM Team
Department for Environment, Food and Rural Affairs
Second Floor
Seacole Building, Marsham Street
London
SW1P 4DF
Submitted by email to gm-regulation@defra.gsi.gov.uk

20 March 2019

Dear Madam/Sir

Re: Application from Rothamsted Research to release a genetically modified organism, reference 19/R08/01 as published at https://www.gov.uk/government/publications/genetically-modified-organisms-rothamsted-research-19r0801.

We are writing on behalf of GM Freeze, EcoNexus, GeneWatch UK, the Sustainable Food Trust, OF&G (Organic Farmers and Growers), the Soil Association, the Organic Research Centre, Garden Organic, Biodynamic Association, the Landworkers Alliance, WWOOF UK (World Wide Opportunities on Organic Farms), the Kindling Trust, Sheepdrove Organic Farm, Shepton Farm, the Real Seed Catalogue, Banc Hadau Llambed / Lampeter Seed Library, Unicorn Grocery, Hodmedod, ACE Energy, the Springhead Trust, GMWatch, Beyond GM, Mums Say No to GMOs, Future Sustainability, GM Free Dorset, GM Free Somerset, GM Free Cymru, Genetic Engineering Network, Agri-Activism UK, Pro-Natural Food Scotland, South East Essex Organic Gardeners, Cardiff Friends of the Earth, East Dorset Friends of the Earth, Sustainable Dorset/Dorset Agenda 21 and Resurgence Dorset to request that the above application to release genetically modified (GM) camelina is refused.

GM Freeze is the UK umbrella campaign for a moratorium on the use of genetic modification (GM) in food and farming.

EcoNexus analyses developments in science and technology and their impacts on environment and society. **GeneWatch UK** monitors developments in genetic technologies from a public interest, human rights, environmental protection and animal welfare perspective. The **Sustainable Food Trust** is a registered charity with a goal of promoting food and farming systems that nourish the health of the planet and its people.

OF&G (Organic Farmers and Growers) was the first body to be approved by the government to inspect and certify organic food and farming and is now the largest certifier of organic land in the UK. The **Soil Association** is the UK's leading membership charity campaigning for healthy, humane and sustainable food, farming and land use. The **Organic Research Centre** is the UK's leading independent research, development and advisory institution for organic agriculture. **Garden Organic** (formerly known as the Henry Doubleday Research Association) is the UK's leading organic growing charity with over 20,000 members throughout the UK and abroad. **Biodynamic Association** champions a uniquely holistic and respectful approach to organic farming, food and health.

The **Land Workers Alliance** is a grassroots union representing farmers, growers and land-based workers. **WWOOF UK (World Wide Opportunities on Organic Farms)** is a membership charity which connects people wanting to learn about ecological growing and low impact lifestyles with sites across the country living ethically and needing practical help on the land. **The Kindling Trust** is working to create a more sustainable local food system through a number of practical initiatives in Greater Manchester. **Sheepdrove Organic Farm** and award-winning eco-conference centre are committed to sustainability, conservation and education. **Shepton Farm** in Somerset grows grass/clover, arable crops and apples.

The **Real Seed Catalogue** provides open pollinated seeds for home gardens and organic growing. **Banc Hadau Llambed / Lampeter Seed Library** offers free locally adapted and produced open pollinated seeds to its members. **Unicorn Grocery** in Manchester has pioneered a cooperative approach to sustainable urban food supply**. Hodmedod** works with British farmers to offer a range of foods from diverse arable crops to retail, catering and manufacturing customers. **ACE Energy** helps farmers to use less energy intensive methods of farming. The **Springhead Trust** promotes environmental education, sustainability, organic agriculture and local performing arts.

GMWatch is a news and information service that aims to keep the public up to date on issues around GM crops and foods and associated pesticides. **Beyond GM** is a creative initiative to educate and engage the public and raise the level of debate around the issues of GMOs and sustainable food production in the UK. **Mums Say No to GMOs** is a coalition of mothers and their families using consumer pressure to stop GM crops being grown and sold in the UK. **Future Sustainability** advises on organic production, food quality and health.

GM Free Dorset and **GM Free Somerset** are grass roots campaigns supported by individuals, groups, local businesses and charities that exist to promote rural sustainability. **GM Free Cymru** is the community pressure group campaigning to keep Wales free of genetically-modified crops. **Genetic Engineering Network** facilitates the exchange of information between groups and campaigners. **Agri-Activism UK** is a network of people who campaign for cleaner, healthier and more sustainable agricultural and food systems. **Pro-Natural Food Scotland** is a long-established Scottish GM-concern group aiming to empower the public by raising awareness.

South East Essex Organic Gardeners promotes the principles of organic gardening. **Cardiff Friends of the Earth** and **East Dorset Friends of the Earth** work on a local level to create a just world where people and nature thrive. **Sustainable Dorset/Dorset Agenda 21** is the online and outreach interface of Dorset Agenda 21, a central hub for sustainable and resilient activity across the county, with the aim of raising awareness and increasing interest and involvement in sustainability. **Resurgence Dorset** is a monthly community group of environmentalists and nature-lovers set up to discuss Resurgence & Ecologist articles and host talks to raise public awareness of environmental issues.

We do not believe that this trial should go ahead. The application is incomplete, the intended genetic modifications may cause harm, the containment measures are inadequate, the relationship with existing consents is not clear and the proposed trial will be of no net benefit to society. In summary, our objection covers the following points:

1. The application is incomplete
   1.1. No details are given of the actual GM camelina lines to be trialled
   1.2. There is no molecular characterisation of the GM camelina lines to be trialled

2. The intended genetic modifications may cause harm
   2.1. The introduction of omega-3 long chain polyunsaturated fatty acids (LC-PUFAs) to the terrestrial ecosystem raises significant ecological concerns
   2.2. It has not been proven that the leaves do not contain LC-PUFAs
   2.3. The ecological effects of other engineered traits in the GM camelina have not been properly considered
   2.4. The GM lines may contain herbicide tolerance genes

3. The containment measures are inadequate

4. The relationship with existing deliberate release consents is not clear
   4.1. The applicant already has consent for a very similar GM camelina field trial
   4.2. The applicant appears to be re-using fields planted with previous GM camelina trials

5. The proposed trial is unnecessary and will be of no net benefit to society

1. THE APPLICATION IS INCOMPLETE

We are pleased to note that, in contrast with the applicant's previous (18/R8/01) application for a deliberate release of GM camelina plants, GM plants generated by the CRISPR/Cas9 genome-editing technique have been recognised as within the scope of this application for a field trial. However, there are other very significant omissions in this application.

1.1. No details are given of the actual GM camelina lines to be trialled

Applications for consent to release a GMO higher plant are required to state (Part A1, para 14) "*The size and structure of the insert and methods used for its characterisation, including information on any parts of the vector introduced into the genetically modified plant or any carrier or foreign DNA remaining in the genetically modified plant, (b) the size and function of the deleted region or regions, (c) the copy number of the insert, and (d) the location or locations of the insert or inserts in the plant cells (whether it is integrated in the chromosome, chloroplasts, mitochondria, or maintained in a non-integrated form) and the methods for its determination.*" Instead, the applicant describes (Part A1, para 14) "*Multiple individual events derived from constructs generated from the elements listed*".

These "elements listed" in Part A1, para 12, consist of 103 different genetic elements including borders, promoters, regulatory elements and marker genes. These elements could be inserted into the GM crop in a multitude of combinations, as illustrated by the schematic illustrations in Para 14. However, for the vast majority of contructs, the actual combinations intended to be trialled have not been listed in the application.

This 'pick and mix' approach to field trials of GM crops clearly breaches the requirement for a precise description of each GM line to be trialled. It is not possible to carry out a meaningful risk assessment and the GM camelina trial should be rejected on the grounds that no information has been supplied on the specific GM lines to be trialled.

1.2. There is no molecular characterisation of the GM camelina lines to be trialled

As the application does not include any details of the specific GM camelina lines to be trialled, there is also a complete absence of any molecular characterisation of the GMOs that the applicant proposes to plant in an open field. Molecular characterisation is a regulatory requirement under the UK Genetically Modified Organisms (Deliberate Release) Regulations 2002 no. 2443 and is also essential to a meaningful risk assessment. Without it, a number of significant questions remain unanswered. For example: Is the vector backbone from Agrobacterium integrated? Has any of the camelina's DNA been deleted or rearranged? Is the (unspecified) construct stably inherited?

Some of the transgene constructs that are described include genetic elements that raise further safety questions and concerns. One of the constructs appears to include genes encoding artificial double-stranded RNA (dsRNA) molecules (Construct HO, Part A1, para 14) that activate the RNA interference (RNAi) pathway, which is important to gene regulation in both plants and animals. dsRNAs can cause off-target activity which can interfere with non-target genes[1], potentially altering levels of nutrients, toxins or allergens in the plant. In the event of ingestion, dsRNAs are also thought to be bioactive following digestion[2], affecting gene expression in mammals and other organisms, as well as gut microbes[3]. This significantly increases the possibility that RNAi-based GM will have significant implications for human health, wildlife and the wider ecosystem.

The application also includes CRISPR/Cas9-mediated genome-edited lines (Part A1, para 14). The use of CRISPR/Cas9 genome editing systems is also associated with unintended effects such as off-target activity leading to genetic modification of non-target genes[4], as well as unintended genetic changes at the target site to be modified, such as complex DNA rearrangements, insertions and deletions[5].

The unintended effects described above demonstrate the uncertainties and risks inherent in the GM process and the importance of molecular characterisation. Without analysis by whole genome sequencing to assess for unintended genetic changes, and both transcriptomic and proteomic profiling to assess for changes to gene and protein expression, it is impossible to know the nature or possible impact of unintended genomic changes.

The GM camelina trial should be rejected on the grounds that the application does not include any molecular characterisation of the GMOs to be planted.

2. THE INTENDED GENETIC MODIFATIONS MAY CAUSE HARM

2.1. The introduction of omega-3 LC-PUFAs to the terrestrial ecosystem raises significant ecological concerns

The proposed field trial aims to evaluate the production of oil in the seeds of GM camelina that has been engineered to biosynthesise long chain polyunsaturated fatty acids (LC-PUFA), particularly eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA). However, there are ongoing and potentially serious concerns[6] regarding the ecological effects of producing LC-PUFA in terrestrial ecosystems with researchers specifically linking their concerns with field trials of GM camelina engineered to produce EPA and DHA[7].

Commenting on the applicant's 2018 GM camelina trial application (18/R8/01), the Advisory Committee on Releases to the Environment (ACRE) stated that because the LC-PUFAs are produced in the seeds, exposure of leaf-eating insects would be low, but that a detailed consideration would be needed in the event of any larger scale cultivation: "*Whilst ACRE agrees that the introduction of such novel compounds into the terrestrial food web on a larger scale would need to be considered in detail, its view in the case of these small-scale trials remains the same. ACRE considers that levels of exposure to phytophagous insects will be relatively low. In this case, the expression of the additional genes is under the control of a seed specific promoters, so levels of exposure for leaf-feeders will be negligible. Whilst potential dosage levels will clearly be higher in seeds, exposure of seed feeders is likely to be very low due to the size of the trials.*"[8]

Given the extremely open consent that the applicant is seeking (1.1, above), we are concerned by any assumption that LC-PUFAs will only be produced in the seeds of the GM plants, as it has not been proven that LC-PUFAs are not present in leaves (2.2, below). In addition, new publications since the granting of the 2018 consent (18/R8/01) have reinforced a range of concerns and genetic engineering of plants to produce LU-PUFAs have been listed as a priority topic of emerging issues for 2019[9].

The GM camelina in this field trial represents a **novel** category of risk as the LC-PUFAs are bioactive molecules that are not normally present in terrestrial ecosystems (only aquatic)[10]. As MacDonald et al. (2018) [11] conclude: "*That problem lies in the fact that growing oilseed crops engineered to produce EPA and DHA means introducing to a terrestrial ecosystem a pair of highly bioactive nutrients that are, for the most part, foreign to terrestrial ecosystems at the level of primary producers and their herbivorous insect consumers.*"

Colombo et al (2018)[12] concluded that, although aquaculture and therefore human nutrition may benefit, "*the novel introduction of EPA and DHA, through GE oilseeds, has the potential to cause unintended, and potentially irreversible, ecological and evolutionary consequences in terrestrial agro-ecosystems. Introducing EPA and DHA into terrestrial ecosystems may alter the physiology and ecology of land-based insect populations (and their consumers), both those considered to be crop pests, as well as those that are considered to be beneficial insects. Once terrestrial crops begin producing EPA and DHA, transfer and hence retention of this unique capability within the terrestrial food web may be inevitable and irrevocable, leading to potential downstream effects that are, as yet, not understood.*"

The authors made three recommendations:

"First, to verify the efficiency of the seed promoter, assessments of the potential for EPA and DHA synthesis in other plant tissues (vegetative, flowers, nectar, and pollen) should be independently confirmed.

Second, the potential for gene flow of these transgenes among crops or from the crop to sexually compatible wild relatives and the fitness consequences of this gene flow should be assessed to determine the risk that these crop-derived genes will escape cultivation.

Third, experimental studies, where actual GE-plant tissues (in particular seeds, rather than artificial diets), are fed to different crop pest species (with different feeding habits) should be conducted in confined and controlled conditions."

Despite issuing a statement in 2016[13] that *"Rothamsted Research scientists have discussed with Hixson et al. 2016 the development of collaborative projects to design research experiments to address the above questions"* (on the implications of Hixson et al.'s study demonstrating that LC-PUFAs have detrimental effects on the cabbage white butterfly[14]), the applicant does not acknowledge these later peer-reviewed studies. Instead, the overall environmental risk is described as "*low*" because the LC-PUFAs are intended accumulate in the seeds, rather than the leaves: "*There are no obvious mechanisms that could result in a change in behaviour of organisms as a result of exposure to omega-3 long chain polyunsaturated fatty acids, NMI-PUFAs or seed altered fatty acid profile retained and compartmentalised in the seeds of the GMHP.*" And that "*the hazard is purely hypothetical and highly unlikely ever to be realised*" (Part A4, pg. 4).

2.2. It has not been proven that the leaves do not contain LC-PUFAs

GM Freeze et al.[15] suggested that, during the field trial 18/R8/01, "*The monitoring programme should ensure that levels of LC-PUFA in vegetative tissue, such as leaves, are clearly reported so that any deviation in concentration over the growing season and/or during periods of stress (e.g. drought) is identified and investigated.*" However, this suggestion was rejected:[16] "*Representations suggest that vegetative material should be collected during the trial and tested for these long chain fatty acids. ACRE does not consider that this is necessary. These data may be necessary in combination with toxicological studies to assess risks to non-target organisms in any application to cultivate these GM plants on a wider scale.*"

The lack of consideration of potential ecological effects of the outdoor cultivation of GM camelina producing LC-PUFAs contravenes scientific recommendations. Colombo et al. (2018) [17] recommended that (a) independent verification of the specificity of the seed promoter and assessment of the potential for EPA and DHA synthesis in other plant tissues and (b) toxicity tests in which actual plant tissues from the GM camelina are fed to different crop pest species in confined conditions. This GM field trial should be refused permission until such studies have been completed and published in reputable peer-reviewed journals.

2.3. The ecological effects of other engineered traits in the GM camelina have not been properly considered

In addition to the LC-PUFA production traits discussed above, the proposed field trial also includes genetic modifications intended to produce the non-methylene interrupted (NMI)-PUFAs sciadonic acid and juniperonic acid; to produce seeds with increased oil content; to reduce sinapine production; and (via CRISPR-Cas9 gene editing) to amend fatty acid metabolism (Part A1, para 13). The potential ecological effects of all these traits also need to be considered prior to any field trial. For example, the applicant states (Part A1, para 13) that "*Sinapine has a bitter taste and can reduce protein digestibility*" but does not recognise in the risk assessment that sinapine could affect the palatability of seeds to wildlife. All potential ecological and economic impacts must be properly assessed prior to any consideration of a GM field trial.

For example, tests involving the feeding of plant tissues from the GM camelina to different crop pest species under confined conditions.

2.4. The GM lines may contain herbicide tolerance genes

One of the proposed marker genes confers tolerance to glufosinate ammonium herbicides. As the applicant states (Part A1, para 19): "*The selectable marker bar (bialaphos resistance) encoding a phosphinothricin acetyl transferase; (PAT) activity from Streptomyces, which provides resistance to herbicides which act as inhibitors of glutamine synthase, a key enzyme in the nitrogen assimilation pathway of plants."*

ACRE has previously supported the applicant's view that "*The genetic modifications are unlikely to … confer any selective advantage in the absence of glufosinate ammonium herbicides"* because "*Glufosinate ammonium… will not be used on the trial sites.*"[18] This may be the case on site for the duration of the trial but, as we explain below (3), the containment measures for the proposed trial are not adequate to prevent escape and the spread of a herbicide tolerance trait to wild of cultivated relatives could have a significant impact.

Similarly, in the event of commercialisation of crops based on this trial, farmers facing short-term pressures are likely to utilise the herbicide tolerance trait. This could have a significant effect on biodiversity by reducing plants available to wildlife, as shown in the UK Field Scale evaluations for oilseed rape, in the same botanical family as camelina.[19] No GM crops with herbicide tolerance traits should be introduced to the environment, even as a field trial.

3. THE CONTAINMENT MEASURES ARE INADEQUATE

Given the ecological concerns that we have outlined above, the containment and monitoring measures in this proposed trial do not provide adequate protection from escape.

Pollen escape from the GM field trial is an important consideration as there is a possibility of cross hybridisation with closely related species that may grow locally[20]. The applicant proposes that "*The trial has a strip of non-GM C. sativa to function as a pollen barrier – this will serve as a pollen-trap for pollen released from the GM C. sativa.*" There is no guarantee of a pollen-barrier being effective and we are concerned that the applicant has not recognised in this application ACRE's[21] previous advice that "*the pollen barrier should flower at the same time as (and so should be of the same variety and be sown on the same day as) the GM Camelina.*"

Seed escape is also important, not only because of its potential toxicity to wildlife, but also because escaped seed may initiate feral populations of GM camelina. The applicant's proposed measures to prevent birds from accessing the seed comprise of "*Bird scaring measures such as; suspending wires across the area, deployment of gas guns and hawk kites to deter birds off the site."* This is inadequate and, if the trial is allowed to proceed, a bird net should be required.

In response to a previous application (18/R08/01) ACRE noted that "*There is some uncertainty over the baseline persistence of C. sativa seed in the seed bank in UK conditions*" and required that "*the trial sites should be managed to minimise the persistence of Camelina on them and the experimental plots monitored for two years post- harvest before termination of monitoring can be considered.*"[22] We are extremely concerned to see that the applicant has disregarded this previous requirement and proposes instead to only monitor the trial sites for one year: "*The trial sites will be monitored regularly (at least weekly) during the growing period (May-Aug) and after the termination of the trial during the following year.*" (part A1, para 38).

4. THE RELATIONSHIP WITH EXISTING DELIBERATE RELEASE CONSENTS IS NOT CLEAR

4.1. The applicant already has consent for a very similar GM camelina field trial

The applicant already holds consent for GM camelina field trial 18/R8/01 for the period from 1 May 2018 to 31 October 2022. While there is a clear need for a re-application relating to the lines produced by CRISPR/Cas9 gene editing techniques (which the applicant treated as non-GM in 2018) there is significant additional overlap between the existing consent and the genetic modifications featured in this application.[23]

It is not clear from the application, or from the applicant's own promotion of the project on their website[24] whether or not the proposed new trial will run alongside or as a replacement to 18/R8/01. This makes it impossible for anyone with an interest in the trial to make a clear judgement about the overall environmental or health risks involved, particularly as ACRE advice on previous trials[25] has placed significant emphasis on the small scale of those trials as a mitigating factor.

Regardless of the applicant's current intent, while the existing consent remains valid any consent to plant this new trial would operate in addition the consent for 18/R8/01. Consideration of this application must, therefore, assume that it will run in addition to the existing trial, unless and until the previous consent is formally revoked. In addition, the applicant must be required to clarify their plans in order to meet the legal requirement to publish information on all part B releases of GMOs.

4.2. The applicant appears to be re-using fields planted with previous GM camelina trials

The applicant states (Part A1, para 26) that the field trial is to be conducted at the "*Appletree field trial site*" at Harpenden (TL120130). However, the GM camelina field trial in 2018 was also held at the Appletree site, with the same grid reference (TL120130)[26]. Similarly, the 2018 GM camelina trial at the Brooms Barn site (TL756654) [27] is the same grid reference as the proposed 2019 site (also TL756654) (Part A1, para 26).

As noted above (4.1), the applicant has not made clear the relationship between the proposed new trial and the existing consent (18/R8/01). Each grid reference covers 100 x100 m^2 so, if the existing trial will be continuing, both the Harpenden and Brooms Barn sites will be planted with two very closely related GM field trials in a very limited space. In the event that consent 18/R8/01 is revoked, or that trial is simply discontinued, the site used in 2018 should be undergoing monitoring for any GM camelina volunteers for a minimum of two years, as recommended by ACRE[28]. In either case, it is difficult to see how the applicant intends to follow ACRE's existing requirement that they "*should also avoid re-using experimental plots so as not to interfere with monitoring for volunteer plants*"[29] or indeed its own assertion, in both 18/R8/01 and 19/R8/01 applications (para 26 in both cases) that researchers will "*avoid reusing the same plots*" in subsequent years.

The applicant has not made their intentions clear and there is a risk of both curtailed monitoring of past trials and the re-use of trial plots. This application should not be considered until further information has been provided and the status of the existing consent has been made public.

5. THE PROPOSED TRIAL IS UNNECESSARY AND WILL BE OF NO NET BENEFIT TO SOCIETY

The applicant's justification for this GM camelina field trial is not credible and we restate below key points from our response to their most recent previous application for deliberate release of GM camelina[30] (18/R08/01).

The applicant argues that a deliberate release of GM camelina producing EPA and DHA is justified on sustainability grounds. Principally, that people require fish containing these oils for adequate health and nutrition, and that the fish they consume are in turn fed from marine sources which are becoming depleted by current aquaculture practices.

Despite many claims to the contrary, there is no conclusive evidence of health benefit from omega-3 fatty acid supplementation and some evidence of potential harm[31]. Even if we accept the premise that higher EPA and DHA consumption will lead to better health, it does not follow that these fatty acids must be obtained by eating fish. Omega 3 fatty acids (including EPA and DHA) are also available from meat and dairy sources (especially those from organic or other pasture-fed livestock[32]) and humans are able to synthesise EPA and DHA from shorter chain omega 3 sources in plants. These include new plant sources, such as oil from the Ahiflower (*Buglossoides arvensis*) which has recently been launched in the UK[33] and whose omega-3 oils can be converted to EPA.

Wild fish accumulate LC-PUFAs by consuming marine algae and both EPA and DHA are already commercially available as human food supplements derived from algae[34]. The potential for microalgae to be used as a feed for aquaculture has received much attention from the research community and shows potential to have a smaller resource footprint than traditional fish feed[35].

GM camelina is neither the only nor, in all likelihood, the most economical, solution to reducing the use of fish oil as a feed in aquaculture. The applicant states, in a report published on its own website[36], that "*we would hope to see the bulk volume of 1m MT of fish oils that are harvested from seas matched by a similar amount produced on land by our GM Camelina*". However, we have been unable to find any analysis of the anticipated environmental or agricultural impact of devoting the required area of prime arable land to produce this level of output.

Converting arable land that should be growing high quality food for direct human consumption into an open-air factory producing micronutrient additives for industrially farmed animals will not support the Secretary of State's stated aims[37] of "a more rational, and sensitive agricultural policy which promotes environmental enhancement, supports profitable food production and contributes to a healthier society".

The proposed trial represents an unacceptable risk to farmers, wildlife and the wider environment. The application is incomplete, the intended genetic modifications may cause harm, the containment measures are inadequate, the relationship with existing consents is not clear and the proposed trial will be of no net benefit to society. We request, therefore, that the Minister denies consent and prevents this open-air field trial going ahead.

Yours faithfully

Liz O'Neill Director **GM Freeze**	Dr Ricarda Steinbrecher Co-Director **EcoNexus**	Dr Helen Wallace Director **GeneWatch UK**	Patrick Holden Executive Director **Sustainable Food Trust**	Roger Kerr Chief Executive **OF&G**
Helen Browning CEO **Soil Association**	Dr Bruce Pearce Director of Research & Innovation **Organic Research Centre**	James Campbell Chief Executive **Garden Organic**	Gabriel Kaye Executive Director **Biodynamic Association**	Dee Butterly Project Development and Outreach Coordinator **Land Workers Alliance**

Scarlett Penn Chief Executive **WWOOF UK**	Helen Woodcock Director **The Kindling Trust**	Juliet and Peter Kindersley Farmers **Sheepdrove Organic Farm**	Oliver Dowding Farmer **Shepton Farms Limited**	Kate McEvoy and Ben Gabel Founders **The Real Seed Catalogue**
Cathy Streeter Founder **Banc Hadau Llambed / Lampeter Seed Library**	Debbie Clarke Co-Operative Member **Unicorn Grocery Ltd**	Nick Saltmarsh Managing Director **Hodmedod Ltd**	Lee Smith Managing Director **ACE Energy Ltd**	Edward Parker Trust Manager **The Springhead Trust**
Claire Robinson Editor **GMWatch**	Pat Thomas Director **Beyond GM**	Sally Beare Campaigner **Mums Say No to GMOs**	Lawrence Woodward OBE Director **Future Sustainability**	George Moore Spokesperson **GM Free Dorset**
Jane O'Meara Spokesperson **GM Free Somerset**	Brian John Co-founder **GM Free Cymru**	Jim McNulty Co-founder **Genetic Engineering Network**	Gerald Miles Co-founder **Agri Activism UK**	Joanna Clarke Chair **Pro-Natural Food Scotland**
Carole Shorney Secretary **South East Essex Organic Gardeners**	Bryony Haynes Coordinator **Cardiff Friends of the Earth**	Angela Pooley Chair **East Dorset Friends of the Earth**	Pam Rosling Trustee **Sustainable Dorset/Dorset Agenda 21**	Ken Huggins Organiser **Resurgence Dorset**

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