

Seed Gathering

23rd & 24th October 2021

The Gaia Foundation's
Seed Sovereignty UK
& Ireland Programme



Intro

This 'zine' is an accompaniment to the Seed Gathering 2021, organised by the Gaia Foundation's Seed Sovereignty UK and Ireland Programme.

The Seed Gathering is a collection of discussions, workshops and talks celebrating the diversity, opportunities and deep cultural connections of our seeds. Spanning two days in October, it offers a virtual space in which we can come together safely to forge new connections and build a stronger movement for Seed Sovereignty.

We know that virtual gatherings are not the same as seeing one another face to face, so we have designed this zine as a physical accompaniment to the online sessions. We hope that by holding it in your hands you will feel connected to the other participants across the screen.

Within these pages you will find words, images, diagrams and photographs to accompany most of the sessions we are holding in the Seed Gathering programme. We want these pages to offer extra insight and inspiration, adding depth to the discussions of the Seed Gathering.

We hope you enjoy reading it as much as we enjoyed making it!

“Seed is the embodiment of millions of years of nature’s evolution and thousands of years of farmers’ evolution and breeding. It holds the potential of millions of years of future evolution. Seeds are, therefore, the repository of centuries of biological and cultural evolution. They hold the memory of the past and potential of the future.”

DR VANDANA SHIVA,
SEED FREEDOM IS AN ETHICAL AND ECOLOGICAL IMPERATIVE



Saturday, 23rd October

KEYNOTE / 9.30AM:
Keynote with Dr Vandana Shiva

SESSION 1 / 10:30AM
Accessing Agrobiodiversity: Searching for new varieties

SESSION 2 / 11:30AM
Globalising the (Seed) Struggle with La Via Campesina

SESSION 3 / 12:30PM
Reviving Grain Equipment : Human scale machinery for big challenges

LUNCH / 1:30PM
Virtual Seed Tour with Real Seeds

SESSION 4 / 2:30PM
Organic Seed Breeding: Progress and challenges

SESSION 5 / 3:30PM
Vegetable Seed Legislation: Where we are and where we want to be

SESSION 6 / 4:30PM
Grain Legislation: Where we are and where we want to be

SESSION 7 / 5:30PM
Sovereign Medicine: Medicinal herb seed issues and opportunities

FILM NIGHT / 7:30PM
Seeds of Justice Film & Conversation

Sunday, 24th October

SESSION 1 / 9:30AM
Seed to Plate: working together to build small-scale grain networks

SESSION 2 / 10:30AM
Pulses, Proteins and the UK Diet

SESSION 3 / 11:30AM
Community Seed Forum: Rural and urban seed initiatives

SESSION 4 / 12:30PM
12.30pm: Three Irish Seed Saving Pioneers: a journey back to the beginning

LUNCH / 1:30PM
Llafur Ni (Our Grains) Film Screening

SESSION / 2:30PM
Fostering Genetic Diversity within the Variety Development Process

SESSION 6 / 3:30PM
Contracting Between Growers and Suppliers

SESSION 7 / 4:30PM
In Conversation with the Seed Sovereignty Team:
Exciting Updates from our Networks

SESSION 8 / 5:30PM
Lessons from Our Global Allies



Black Oat Biscuits

In the past Black Oats (Ceirch Du) were grown across Wales and Scotland, but are now on the brink of extinction. While there are only a few farmers still growing them, we have an ever-growing network of people interested in preserving and reviving them. Eating the black oats comes with its own challenge as they have fibrous hulls which are difficult to remove. With a lack of access to human-scale processing equipment, we have only been able to imagine how these oats taste.

While we're currently developing a way to process the oats with redesigned human-scale equipment, we knew there must be a way of doing it on a very small scale, by hand. Following several years of experimentation, we finally have a way to taste the black oats grown on Caerhys Farm in Pembrokeshire by Gerald Miles.

Expert baker Kimberly Bell takes us through the process of making oat cakes from hulled black oats...



On a table-top mill or using a food processor, coarse mill the oats to separate the hulls from the oats.

Then proceed to mix the biscuits:

Makes 12

- 120g Oat flour
- 90g Rolled oats
- 95g Honey
- 50g Castor Sugar
- 60g Unsalted butter
- Pinch of salt (1.2g)

Tip them into a tray or box, something wide with deep sides, pushing the crushed whole oats with husks to one side and use the lowest setting on a hairdryer to blow the hulls off the oats.

You will need to agitate the tray the keep the husks coming to the top so they can blow away (Doing this outside might be a good idea, as they go everywhere and are a bit itchy)

Keep going until you have removed all of the black hulls from the oats

Using a medium to fine sieve, separate the oats into a proportion of oat flour and 'rolled' oat pieces. If you need more 'flour' you can re-mill some of the larger oat pieces to a fine flour.

Rub the butter into the flour, then add the salt and honey and bring together to form a dough

Divide the dough into 12 pieces, pressing them into flat rounds onto a tray lined with baking parchment

Bake at 180 in a fan oven for 10-12 minutes, until they are golden brown

Accessing Agrodiversity: Finding and using rare seeds

KATE MCEVOY FROM REAL SEEDS TELLS US ABOUT BRINGING THE MIXED LEAF AMARANTH INTO THEIR SEED COLLECTION.

“Mixed Leaf Amaranths are our own small contribution to the world of Organic Heterogenous Material. We first corresponded with grain specialist David Brenner of Iowa State University in the late 1990s, asking about varieties of amaranth that might perform well in the UK. He sent us 12 samples of amaranth from the USDA genebank, which we trialled as individual varieties over a number of years. In order to maximise the adaptability of the crop to British weather, we developed from these varieties two diverse interbreeding mixes (these type of mixes are often referred to as a ‘grex’ in the US). The first is a grain mix, selected to grow well under cooler UK summer conditions, to flower reasonably early, so it ripens in the long days of mid summer, and to have open heads that don’t hold too much water in wetter weather. The mix has the secondary joyful characteristic of having very beautiful and varied flowers. The second strain –our Mixed Leaf Amaranth -we selected for leaf production, from varieties that don’t start to form flowers until late summer or early autumn.



“The plants grow strong and vigorously, producing a large harvest of leaves throughout the summer.”

The plants grow strong and vigorously, producing a large harvest of leaves throughout the summer. Amaranth leaves are really tasty, but also very high in nutrients, and not bothered by pests –really the ideal summer vegetable crop. We’ve had great feedback from growers as far north as Ullapool in Scotland enjoying their greens.”

RICHIE WALSH, THE SCOTLAND COORDINATOR FOR THE SEED SOVEREIGNTY PROGRAMME, TELLS US OF HIS MISSION TO REINTRODUCE SCOTTISH HERITAGE BEANS VIA THE CZECH REPUBLIC.

“I’m always on the hunt for heritage Scottish-bred vegetable cultivars. While giving a presentation on growing bean seed crops to the Scottish Intermediate Seed Saving course, many of the students voiced their problems with growing dwarf French beans in the Scottish climate. Some students had already made up their minds that, “it’s not worth growing dwarf French beans in Scotland”. One of the students asked me if I had ever heard of ‘Glamis’ dwarf French beans. Apparently it was a Scottish bred dwarf French bean which used to be quite popular in the 70s and 80s, but has since disappeared from catalogues. I reached out to every contact I had in the UK and Ireland hoping that someone might still be growing ‘Glamis’ somewhere, to no avail. That was until someone at SASA (Science and Advice for Scottish Agriculture) informed me of a gene bank in The Czech Republic who keep ‘Glamis’ beans. I contacted the gene bank and they quickly sent me sixty seeds along with a phytosanitary certificate. I’ve grown the ‘Glamis’ beans in a greenhouse this season and hope to share them next season with people who have studied the Scottish intermediate seed saving course. This way we can bulk up stocks and hopefully re-introduce this hardy Scottish dwarf French bean to commercial catalogues in 2023.”



“I’ve grown the ‘Glamis’ beans in a greenhouse this season and hope to share them next season with people who have studied the Scottish intermediate seed saving course.”

CATRINA FENTON OF THE HERITAGE SEED LIBRARY TELLS US ABOUT COLLECTING A DERBYSHIRE BROAD BEAN .

"Garden Organic's Heritage Seed Library exists to save, share and tell the stories of heritage vegetable varieties for generations to come. We have over 780 varieties that are not widely or commercially available. Importantly, they are "open pollinated " and with this comes the potential to meet future challenges such as climate change, and to counter the decline in biodiversity that underpins our food systems. Each starts with a personal story. We receive a letter from a grower or their family with precious seed wrapped up in paper, tiny boxes and even old cigarette tins, accompanied by a personal note explaining their origins. This is the beginning of a lengthy process of research and growing trials, and for some heirlooms this may be the first time they have been formally assessed and described. An example of this is Clark's Classic Broad Bean which has been grown for more than 100 years

in Derbyshire by three generations of the Clark family. During the 1940s and 1950s it is thought that the variety was commercially available and particularly important during the 'Dig for Victory' campaign. It was introduced to us as a potential variety for inclusion in the library by the Clark brothers, who had been carefully maintaining their heirloom for the last 50 years. In 2016 it became part of our trials and after rigorous study we included it as a unique heirloom variety in our collection. We were delighted to inform the surviving sibling who said, "My brother would have been honoured to know the family broad bean was safe for posterity". The Heritage Seed Library is a dynamic, living collection - our challenge remains to find and conserve those at risk of disappearing. This year we are trialling five newly re-discovered varieties that may otherwise have been lost"



"During the 1940s and 1950s it is thought that the variety was commercially available and particularly important during the 'Dig for Victory' campaign."

Bloody Marvel Lettuce

The Bloody Marvel lettuce is a richly speckled experimental new lettuce bred for resilience to London's challenging growing conditions by Richard Galpin. It is inspired by research into the Bloody Cos variety, also known as Spotted Aleppo which originated in Syria in the 18th Century. After some searching and prior trialling, the Bloody Marvel began with a cross between heritage favourite Marvel of Four Seasons and Mayan Jaguar, a beautiful red spotted variety bred by Frank Morton of Wild Garden Seeds in Oregon, USA. The parent plants chosen were manually cross-pollinated in 2017 using the 'clip and wash' method. This involves emasculating the flowers by rising at dawn before the flowers have opened, clipping the ends of the petals and washing away the pollen. This prevents self-pollination and allows the pollen from a different parent plant to be rubbed onto the exposed stigmas. Seed is then saved, and several years

of selection begins in earnest, with each new generation selected to bring out the desired characteristics. The aim for Bloody Marvel is a robust, wide-gene-pool lettuce, more resistant to London's urban growing conditions. Through its striking red flecks of colour, the variety gives a visual reminder of its complex genetic diversity. Other interesting oddities that emerged during the programme have also been saved by Galpin and grown on into other lines. Offshoots from the original Bloody Marvel cross include 'Elephant Shoes', 'Street Fighter', and 'Pandemic'. The project is now in its 6th year, The Bloody Marvel has been trialled at a small scale with a few other local growers, who report back positively in terms of drought resistance and general toughness. It is shared with other London seed savers through the London Freedom Seed Bank. www.richardgalpin.co.uk www.londonfreedomseedbank.org

This involves emasculating the flowers by rising at dawn before the flowers have opened, clipping the ends of the petals and washing away the pollen.

Article 19: Right to Seeds

1. Peasants and other people working in rural areas have the right to seeds, in accordance with article 28 of the present Declaration, including:
 - a. The right to the protection of traditional knowledge relevant to plant genetic resources for food and agriculture;
 - b. The right to equitably participate in sharing the benefits arising from the utilization of plant genetic resources for food and agriculture;
 - c. The right to participate in the making of decisions on matters relating to the conservation and sustainable use of plant genetic resources for food and agriculture;
 - d. The right to save, use, exchange and sell their farm-saved seed or propagating material.
2. Peasants and other people working in rural areas have the right to maintain, control, protect and develop their own seeds and traditional knowledge.
3. States shall take measures to respect, protect and fulfil the right to seeds of peasants and other people working in rural areas.
4. States shall ensure that seeds of sufficient quality and quantity are available to peasants at the most suitable time for planting, and at an affordable price.
5. States shall recognize the rights of peasants to rely either on their own seeds or on other locally available seeds of their choice, and to decide on the crops and species that they wish to grow.
6. States shall take appropriate measures to support peasant seed systems, and promote the use of peasant seeds and agrobiodiversity.
7. States shall take appropriate measures to ensure that agricultural research and development integrates the needs of peasants and other people working in rural areas, and to ensure their active participation in the definition of priorities and the undertaking of research and development, taking into account their experience, and increase investment in research and the development of orphan crops and seeds that respond to the needs of peasants and other people working in rural areas.
8. States shall ensure that seed policies, plant variety protection and other intellectual property laws, certification schemes and seed marketing laws respect and take into account the rights, needs and realities of peasants and other people working in rural areas.

PEASANTS HAVE THE RIGHT TO SAVE, USE, EXCHANGE AND SELL THEIR FARM-MADE SEED OR PROPAGATING MATERIAL.



UNITED NATIONS DECLARATION ON THE RIGHTS OF PEASANTS AND OTHER PEOPLE WORKING IN RURAL AREAS

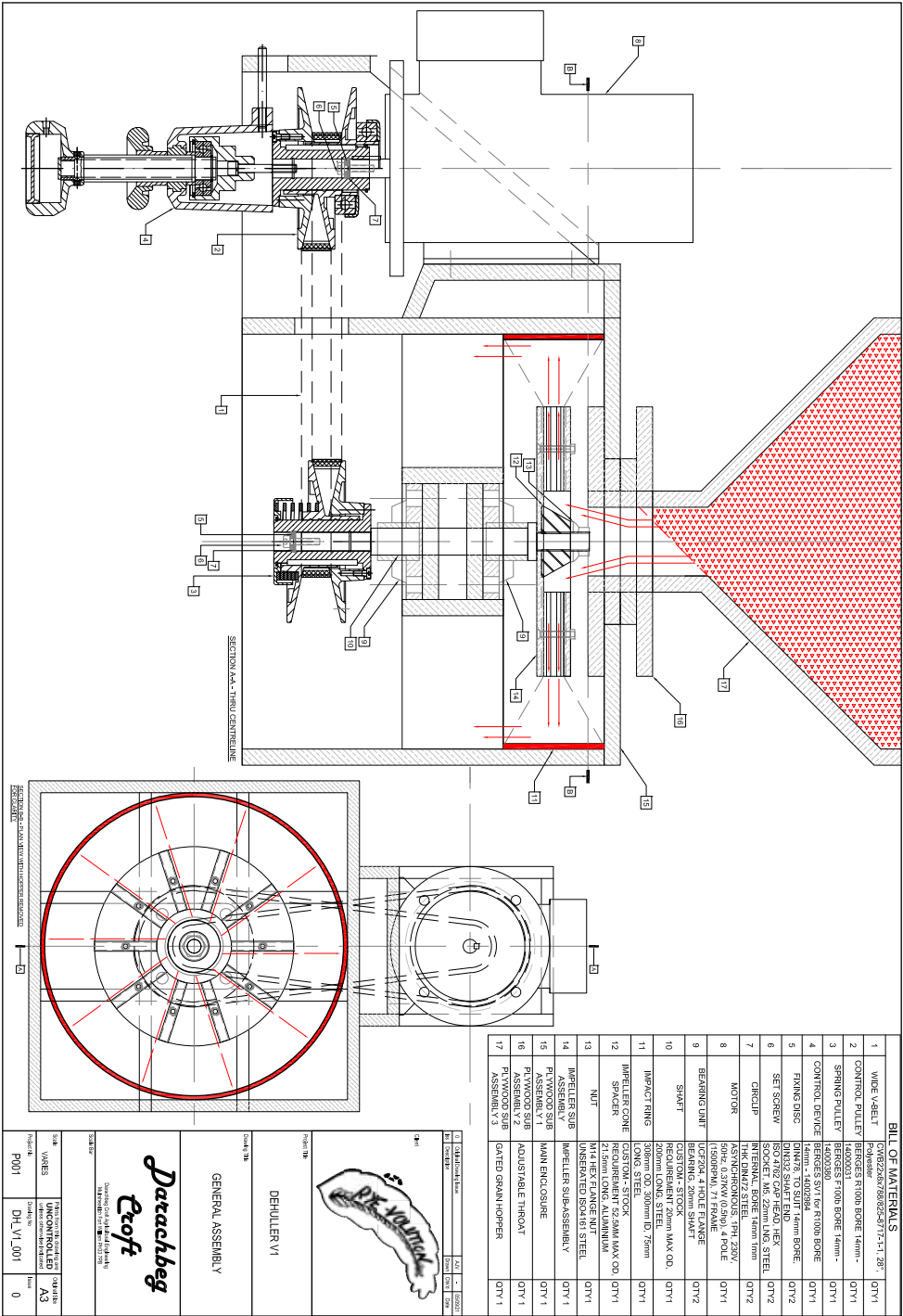
~ Book of Illustrations ~

Reviving Grain Equipment: Human-scale machinery for big challenges

For several years now, growers within our grain networks have been grappling with a mystery, how to process oats for human consumption on a farm scale. Adam Veitch –a crofter, engineer and baker –has been working with the Seed Sovereignty Programme to solve this much discussed conundrum. In collaboration with Am Fasgadh at the Highland Folk Museum, Adam has been researching the human-scale equipment that used to be essential to crofting life, and which could help small-scale grain growers today overcome some of the challenges they face when trying to process their harvests. Adam has now studied the equipment and records available at the Museum and compiled a comprehensive description of

Adam’s research contains sufficient technical detail to enable modern makers to re-produce and enhance historical designs for use by the small grain growers of today.

the grain machinery a small-scale crofter would have historically used to process their harvest. All of this has been done with innovation in mind. Adam’s research contains sufficient technical detail to enable modern makers to re-produce and enhance historical designs for use by the small grain growers of today. Adam’s research can be read on the Seed Sovereignty Programme’s website: www.seedsovereignty.info/grains-research/ Building on this, Adam has created a prototype a de-huller to be released as an open source plan and used on farms to help in the quest to process and eat oats on a small to medium scale. We are very excited to unveil his design at our Seed Gathering 2021...



Vegetable Seed Legislation: Where we are and where we want to be

The UK seed laws established in the 1960's and adapted in the 1990's were enacted to enable regulation of the sale of plants and seeds. Regulation benefits farmers seeking assurances as to the quality and safety of the seed they are buying. For large-scale commercial crops, which affect national food supplies and global markets, regulation can be understood. As part of the regulation vegetable seed varieties must be registered on a national list. In order to register the variety the seller must be able to prove its 'Distinctiveness, Uniformity and Stability' or DUS. The cost of registering and maintaining a variety is substantial. It is illegal to sell varieties which do not appear on this official national list. This model, suited to large scale industrial production, is however prohibitive to small-scale seed companies who may sell a range of niche or heirloom varieties and will never sell one variety in such quantities as to justify the price of registration.

The effect of this legislation therefore limits the range and diversity of vegetable seed, which can be marketed openly. Adaptation to the law had enabled varieties to be added to a UK national list as 'amateur seed' for a one-off registration fee, although working within these rules still proves to be burdensome and ill-suited to the size or scale of all seed markets, or the preferences of different users.

The Gaia Foundation's Seed Sovereignty Programme have been working in collaboration with seed lawyer Fulya Batur and UK seed companies to explore alternative models with DEFRA (Department for Environment, Food and Rural Affairs), ones which will support small scale seed companies and enable greater access to a wide variety of vegetable seeds, protecting both biodiversity and small-scale seed enterprises and the growers who rely on them.

Main Pathways For Future Advocacy

The contextual analysis of EU seed Directives shows that there are two mutually supportive pathways to advocate for more space for associations and companies that strive to conserve seed diversity and ensure its wider and more sustainable use in the United Kingdom:

- (1) **target the definition of seed marketing**, delineating the notion of commercial exploitation favourably to exclude a wide range of activities from its scope,
- (2) define more favourable outlines **for ad hoc regimes that allow for the commercial exploitation of all types of seed diversity**

Exchange & sale outside "Marketing"

Advocate for a defined yet ample range of activities falling outside of the notion of commercial exploitation of seeds and propagating material

**GENERAL DEROGATION
COMMERCIAL ACTIVITIES AIMED AT CROP
DIVERSITY CONSERVATION:**
Definition of Scale? Actors?

Ad hoc regimes for Marketing seed diversity

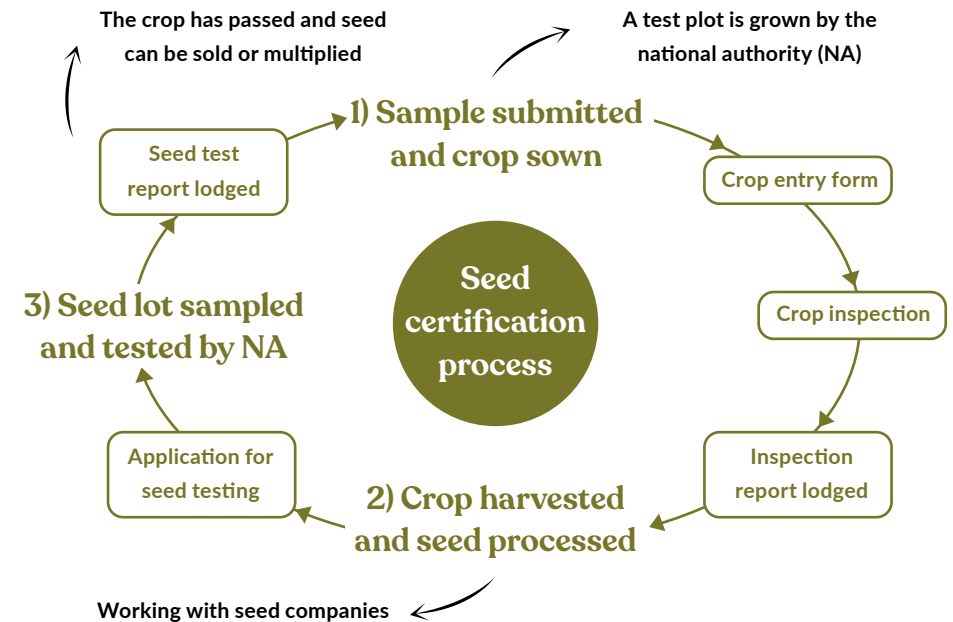
Carve out better suited ad hoc regimes that ensure the commercial exploitation of crop diversity outside of the productive agricultural production mindset.
Allow non-DUS material to be sold in commercial exploitation context

LIGHT VARIETY REGISTRATION:
Conservation & Amateur Varieties
PARALLEL REGIME:
Notification Organic Heterogeneous Material
GENERAL DEROGATION:
Niche Varieties

While the former approach would undeniably support initiatives where the primary aim of conservation and sustainable use of crop diversity is evident and that are generally not engaged in significant mercantile activities in the formal seed market, the second approach would focus on creating legal certainty for those seeking a tailored and legitimate entry for a larger range of seed initiatives into the formal seed market. By understanding and communicating the practical challenges and inherent limits of the existing options provided for by the EU seed Directives, the future landscape of seed marketing laws in the UK could very well become a supportive tool for crop diversity initiatives, rather than a hurdle to overcome.

Grain Seed Legislation: How to market a seed of a genetically diverse crop?

ORC worked alongside European colleagues to campaign for a change to seed marketing legislation so that genetically diverse cereal seed could enter the formal seed certification process. A temporary experiment was put in place by the European Commission to determine the challenges that are encountered when certifying this sort of seed...



The experiment ended this year, and the marketing of Organic Heterogeneous Material will be allowed to continue within the new EU Organic Regulation from 2022. We need to decide what next in the UK... What are the useful parts of the seed certification process, what is superfluous - adding administrative burden and expense, and what needs to change to allow increased genetic diversity?

To learn more about ORC Wakelyns Population (YQ) visit:
<https://tinyurl.com/ORC40ORCWakelynsPopulation>

A full report on the learnings from the temporary experiment
(and more) can be found at: liveseed.eu/wp2



The Seed Herbal

HERBALIST ROSY McLEAN TALKS US THROUGH SOME MEDICINAL USES FOR SEEDS.

Herbal medicine is the use of plants as medicine. Many different plant parts can be utilized for their therapeutic benefits including roots, leaves, flowers, fruits and seeds! Seeds are an important element of our herbal apothecary and some of the most valuable herbal remedies are actually seed remedies including;

Fennel Seed

This is primarily a digestive remedy used to support digestion and offset any bloating or gas. Use it as a tea after a heavy meal, or add some to bean dishes to aid digestion.

Nettle Seed

These can be used as an anti-inflammatory, native adrenal restorative tonic for helping people who feel low energy, run down and fatigued. Dry the plump female seeds and grind them up for adding to foods or energy bars.

Milk Thistle Seed

Is a classic liver tonic, which can be used to help protect, support and heal the liver and gallbladder. Use as a tincture, tea, or grind up the seeds to add to foods.

Celery Seed

Has been used traditionally in the treatment of arthritis, rheumatism and gout, and as a urinary antiseptic. It can also help to settle nerves and support digestion. Cook with the seeds, or use as a tea or tincture.

Oat Seed

Makes a fine nerve support tonic used for 'feeding' the nervous system, especially when you're under stress or recovering from exhaustion. Use the green oats in their 'milky' stage as an adrenal restorative remedy, or in the mature form as more of a general nutritive nerve tonic. Make into a tea, tincture, or remember to eat your porridge in the morning. I hope that you enjoying bringing some more seed remedies into your routine to support your health.

Rosy is a herbalist based in Fife, Scotland, who grows many of the herbs used in her dispensary. www.rosyherbalist.co.uk



Seeds Of Justice

DR. MELAKU WOREDE FROM ETHIOPIA IS CELEBRATED FOR ESTABLISHING THE FIRST GENE BANK FOR SEEDS AND PLANT MATERIALS IN AFRICA, AND FOR HIS PIONEERING WORK BRINGING TOGETHER TRADITIONAL FARMERS AND SCIENTISTS.



In 1989 he was awarded the prestigious Right Livelihood Award, for his efforts in “...preserving Ethiopia’s genetic wealth by building one of the finest seed conservation centres in the world.” Many in Ethiopia and elsewhere in the world are following his approach. He explains the vital role that traditional farmers have played and can play, especially women, in cultivating the seed diversity which exists across Africa. “The rich genetic diversity that we see across the planet didn’t just occur by chance. Farmers have played a key role in creating and maintaining this diversity by domesticating and breeding plants to adapt to the conditions under which they were farming. They breed within the context of varying landscapes and seasons, and with a multitude of characteristics and criteria to meet the needs of the family and the community. Traditional farmers know exactly what they are doing. When I say ‘farmer’, I refer especially to women, although men also have their crops in

most cultures. It is generally overlooked, but it is the women who carry out most of the seed selecting, breeding, storing and protecting. In my experience it is the women farmers who cross the varieties, and they do so very consciously. They look for specific characteristics of interest, such as how it will cook, how it tastes, its storability and colour. Women are excellent observers and they have many reasons in mind when they select -from taste to nutrition, to ceremonial and medicinal uses, to marketability. In addition to their responsibility in the selection process of staple domesticated crops, women are far more intimately connected with the numerous species of edible wild plants than their male counterparts. They are also more skilled at breeding and observing those plants which are similar to the so-called weed varieties. They often deliberately leave the ‘weeds’ as a method of intercropping and dealing with pests attracted to the main crop, as well as a vital source of nutritious greens.

“In my experience it is the women farmers who cross the varieties, and they do so very consciously. They look for specific characteristics of interest, such as how it will cook, how it tastes, its storability and colour.”



Their knowledge of complementary planting is extensive and passed on orally from mother to daughter. These are the subtleties of the traditional roles and responsibilities on the farm, which are completely ignored and undermined by modern agriculture, tending to both favour and target men. A common myth amongst scientists and exponents of industrial agriculture is that farmers are solely interested in yield, and this is simply not true. The extent to which a farmer selects for high yield is relatively modest, because they are interested in so many characteristics. Farmers’ needs are diverse and so their selection criteria is correspondingly high. They will be selecting and breeding for taste, for cooking qualities, for the short and longer term growing periods, for animal fodder, building materials, medicines and ceremonies. The list is endless. The challenge is to increase productivity without jeopardising the gene pool of all of these other

characteristics. Diversity is crucial for sustaining productivity, enriching the nutritional value of our foods, and meeting the other less explicit needs of the household and the community. Essentially, there must be a diverse range of seeds to meet all of these needs. This is ever more critical now with climate change.

There is no doubt that a wealth of genetic diversity lies here in Africa. What has become so apparent in my work over the last 50 years, is that this is thanks to the rich knowledge and skills of traditional small farmers in breeding and selecting to meet their diverse needs, across diverse conditions, working with nature. And the role of women in this is central. Right now Africa is facing a huge threat to its rich and diverse seed, food and farming systems as commercial interests see our seed as an untapped market. We cannot let this happen.

YQ and the rise of an Alternative Grain Network

EXTRACT FROM AN INTERVIEW WITH SMALL FOOD BAKERY KIMBERLY BELL, CONDUCTED BY CHARLOTTE BICKLER OF ORGANIC RESEARCH CENTRE.

The Organic Research Centre has pioneered evolutionary breeding in the UK and produced one of the first modern populations of wheat in Europe. ORC Wakelyns Population was developed to suit organic and low-input farming systems under the leadership of Martin Wolfe. In this interview, Charlotte asks Kimberly about her experiences baking with this wheat, affectionately known as 'YQ' to those in the grain world.

It is clear that the appeal of ORC Wakelyns Population goes beyond certain traits and characteristics that it may possess. What drew you to ORC Wakelyns Population 'YQ'?

At first it was the flavour, delicate and nutty/malty... and it might sound silly, but the silky texture of the dough we made with this flour was so enjoyable. Upon further investigation it was my interest in the story of Martin (Wolfe)'s work and ideas that compelled me to want to make a bread with it. I think to some extent many of us (bakers) are trying to find a way to work and exist in the world that contributes in a positive way to our community and environment. It just made total sense to me that we should be trying to bake with

grain from Wakelyns and to play a part in getting this new grain into the food chain somehow, and the ideas behind it into the wider discussion on the future of food. Part of my interest in the YQ Wakelyns population was that (although a modern crop), Martin's intentions in developing the crop seemed to be aligned with a (pre-chemical agriculture) set of values more reminiscent of the past. Looking to bring back biodiversity and farm in a low input system are certainly value sets that I believe those working with heritage varieties have in common with Martin's work and the story of the population wheat.

We hope to test the baking quality of grain produced in our Organic Winter Wheat variety trial network, what would you be looking for when working with flour samples from these grains?

Flavour. As a baker working with naturally fermented dough, I'm interested in how that flavour manifests itself after fermentation. After that, it's the baker's responsibility to find an appropriate product to utilise good flour. Some benchmark measures would be helpful though for bakers, as not having them can be a barrier to investing in new flours. I have worked with two harvests of Wakelyns Population YQ, milled by different millers and there have been big differences in the character (flavour and behaviour) of the resulting flour. This has as much

to do with infrastructure as farming (storage and milling) but has been an interesting journey for me, learning how to cope with it, and testing my sense of responsibility as a baker to continue being an ambassador for this crop.

Do you think heritage is important? How do you define this?

I would define them as older varieties that have evolved through hundreds of years of co-evolution and agricultural development. The work being done around the world to preserve them and bring them back into the food system is fascinating, and I think heroic. Though I have very little understanding of the science, I could certainly subscribe to the logic that crops that have worked well for our ancestors should be valued and certainly not allowed to be cast aside.

What does local mean to you?

Local means human scale and direct. It's not about a prescribed geographic area, more about a web of strong human relationships that can deliver a sense of community and sovereignty over our food systems. For our bakery, in terms of geographical proximity, it's about deciding what's appropriate on a crop by crop basis. It makes sense for me that eggs should come from a few miles down the road, but, provided a relationship can be built and maintained with a farmer, I'd be happy to consider grain to be local from anywhere in the UK.

Do you feel that there are easy ways for the food system to incorporate these principles presently?

I think it's important to discard the idea of the food system being some kind of 'external' thing and the notion that we are merely consumers... Only

after that mind shift can the principle of local, and the aim of sovereignty become achievable. It's time for all of us to realise that WE are the food system, it can be whatever we want it to be but we must become active citizens within it if we want it to deliver good, healthy food. So yes, in practise it's easy! But in theory, lots of people can't, or are too exhausted to get their heads around it. How on earth did we get to a stage where a farmer will grow a crop that they don't actually eat or haven't even tasted. How on earth did we get to the stage where imported bananas or oranges are a cheap staple cheap food but locally grown salad is a luxury? There are of course barriers to building the localised infrastructure needed to support such a movement towards local, and we must also collaborate to break these barriers down. I could go on and on about this.. but the fundamental change needs to be an attitude shift in individuals away from the sanitised corporate brainwashing of the big food retailers and towards cherishing (enjoying, valuing and making time for) strong human connections within their own community.

What do you think the key elements of a successful local network are? What tips would you give growers and producers hoping to engage in something like this?

Fundamentally, people need to make the time and space to come together and form relationships that will provide the network. It's critical that we work together, so, for cereal farmers wanting to trade more directly and build a community around their product, they need to get out there and meet bakers and millers. It won't take long before they find people they can work with and this will give momentum to new ideas.

Making time to step outside of your work and see what others in the network are doing is essential to building these relationships. At Small Food Bakery the whole team spend up to two weeks a year travelling to visit farmers and suppliers and to attend lectures and conferences. Our network wouldn't exist without this. But it works both ways, and it's also important that our farmers and millers come to visit us too. It might sound like a luxury, but it's during these visits that new ideas present themselves, problems get ironed out and business is done. They also build trust, loyalty and friendship... These are the most important elements of a successful 'local' network.

What led you to organise the Grain Lab conference at Small Food Bakery in 2018? Will this continue?

I think we urgently need to build localised grain economies across the UK and I thought an event of this nature might help. I have had the privilege to meet some brilliant people working with grain at all stages of the network and it seems that there are many of us that share a common aim to build strong local networks, but we are disconnected and therefore don't move forward. After hearing discussions amongst colleagues from the scientific and agricultural side talk about the obstacles they perceived to achieving this, and on the flip side, bakers speaking about the challenges they face... It just seems to me that the first step is to get everyone in the same room learning about each other's

work, sharing a meal together, cross-pollinating our ideas, building empathy and knowledge in a convivial atmosphere. I was inspired by the US Grain Gathering hosted annually by Steve Jones and the team at WSU Bread Lab. Each year they bring together a gathering of farmers, millers, bakers and scientists who spend 4 days eating, learning, teaching and spending time together. I guess I wanted to re-create this kind of learning and development opportunity here in the UK. As a baker, to have the opportunity to come together and exchange skills and ideas is progressive in itself, but if you add the full network into the mix I think the learning and exchange can be much more powerful...

Where do you hope that the movement will go next? What role will the UK Grain Lab play in facilitating your vision?

I hope that we will see more farmers, millers and bakers working together in much more long term forward looking collaborations. Ideally with academics and scientists in the mix to support with their knowledge and resources. I feel that the UK is really lagging behind other countries in this and we should run to catch up. The UK Grain Lab is a meeting of farmers, millers, plant breeders, bakers, cooks, scientists and academics providing an opportunity to bake together, eat, drink, learn from each other and talk about the future. Following a hugely inspiring conference in 2018, UK Grain Lab is planning more conferences post pandemic.



This sign hangs on the wall of the Small Food Bakery in Nottingham

Growing Beans for British Climates



CHARLIE GRAY (SEED SOVEREIGNTY COORDINATOR FOR NORTHERN ENGLAND) INTERVIEWS TAMSIN LEAKY ON GROWING HER FAMILY'S SPECIAL 'LEAKY BEAN COLLECTION', IN CONVERSATION WITH SEED GROWER SUE STICKLAND.

Can you tell us what 'the bean job' is?

Tamsin: The 'big bean job' is the convivial name my father, the well-known plant breeder and researcher, Colin Leakey, gave to the vision he'd cultivated for 40 decades developing the Leakey bean collection and all the work that entailed. His vision was to grow enough beans as dry beans for vegetable protein in this country rather than importing everything. With a strong focus on dwarf French beans that had been bred for the British climate; a short season compared to the South of France, Canada, US and China; he aimed to replace some of our imported protein from those areas. This vision includes people growing these in smallholdings as well as in agriculture so we can have some of the best vegetable protein available, found in Phaseolus spp. varieties. He did everything he could as a scientist from breeding beans suitable for this climate to helping to create a market for dried beans. Dwarf French beans are not generally grown at the agricultural scale in the UK currently, although, specialists Hodmedods

offer a selection of pulses which include Stop, one of Prof Leakey's beans, a small round, bright red Haricot bean, sold as British Haricot beans. We couldn't supply all our beans but we could certainly supply enough dried beans to go in salads, stews, curries and casseroles for example.

How is it going for you this year?

Tamsin: Prim has been growing well this year. I think I have enough of it to help relaunch the variety. It's the only manteca-type bean bred for British conditions and grown in the UK for its particular qualities, such as digestibility. I'm trying to keep one variety going at a time then I can distribute those seeds to growers to bulk up. My main concern at the moment is to keep the genetics going. It's wonderful to have the collection conserved at the Heritage Seed Library as an insurance. It's great knowing those beans are there and being stored to relaunch the 'big bean job'.

Can you tell us about the connection with Sue Stickland and her involvement with 'the bean job' this year?

Tamsin: Well that really came through the Seed Sovereignty Programme's intermediate seed saving training and an introduction to Sue, an expert on seed saving. It is wonderful that Sue is taking an interest and she's breathing some new life into the old G  neratif beans (One of the beans



in the Leakey bean collection) that I gave her. I think on the whole Wales may not be the right germination region in terms of climate for these beans.

Can you tell us about your search for beans this year?

Sue: My interest is on behalf of the Wales Seed Hub as we're looking for varieties that do well in Wales. I'm growing one called Melbourne mini in sufficient quantities to have it for sale through the Wales Seed Hub. There's another called District Nurse that was historically a Welsh variety and has done well. We are looking for other seed varieties and that's why I was interested when Tamsin mentioned the 'Leaky collection'. I remember back in the 80s growing Horsehead, one of Colin's beans. It was great to have Colin breeding beans, as the multinationals are not interested in what gardeners and farmers want, but he certainly was. I am concerned that they don't get lost and am interested to help get them out there for others to grow.

Which beans are you growing and can you tell us more about growing them?

Sue: I tried growing G  neratif this year, but

germination rates were very low. If you are growing beans to eat in Wales, some Dwarf French beans can be saved for seed and frozen for eating but most likely they need to be dried in a tunnel. Melbourne's mini is a climbing french bean and District Nurse is a borlotti bean, both adapted to growing for seed outdoors in Wales. Tamsin is right that growing Dwarf French beans is difficult in Wales.

What are you hoping for next year?

Tamsin: I am hoping to get some custodians with plots of land to take on one variety each and start bulking up the seed. The quantity of seed is going to be critical if they are ever going to be used by home gardeners, market gardeners, or indeed for agricultural use.

Sue: If I can have some more of G  neratif seeds I will try again. We hope that Melbourne's mini and District Nurse will be available for sale through the Wales Seed Hub next year. My hope for the Leakey bean collection is that they'll all be kept at the Heritage Seed Library and be safe. Then people will be able to build up their own stocks.

GMO 2.0: The gene editing threat to seed sovereignty



Gene editing is...

- Technology that damages DNA then tries to control how it is repaired
- Legally classified as GMO
- Patented – both the techniques and the seed they produce
- Prone to errors and unexpected outcomes
- Promoted with wild claims about hypothetical applications - just like first generation GMOs

The UK Government...

- Funds GMO development and always approves field trials
- Sees gene editing deregulation agenda, focused on “innovation”

While Scotland, Wales and Northern Ireland are all much more cautious about GMOs in food and farming

Vital protections are under threat

- Agri-tech industry has the ear of Government
- Plans to re-define GMO to deregulate gene editing
- Biased Defra Consultation on the Regulation of Genetic Technologies
- “Innovation principle” in direct opposition to the precautionary principle
- No GMO regulation means no targeted risk assessment, no traceability or post-market monitoring and no consumer labelling
- Unregulated GMOs threaten organic and agroecological supply chains, exports and UK internal market

Find out more and taken action with UK umbrella campaign:

www.gmfreeze.org | info@gmfreeze.org | 0845 217 8992



Three Irish Seed Saving Pioneers: A journey back to the beginning

IRISH SEED SOVEREIGNTY
COORDINATOR JASON HORNER
REFLECTS ON THE IRISH SEED
PIONEERS WHO KICKED OFF A
MODERN MOVEMENT.

“Passing the baton on, one seed at a time.”

Take yourself back to a time before the internet, social media, YouTube and 24hr rolling news. That is if you can remember that time, some of you may be too young.

Our current lifestyles move so quickly we might be on message but not really connecting. Easily distracted, bombarded by information, it is easy to miss the important things. There literally is so much going on.

Going back twenty and some cases thirty years here in Ireland, there was an awakening. It was the emergence of this modern-day seed movement. Prescient people were looking forward and thinking about how to preserve genetic diversity in all its glorious abundance for future generations. Seedlings of new seed initiatives were starting to push through the soil.

Our world has always needed pioneers in the same way that nature does. Ground must be broken and made fertile for future action. The foundations must be laid for new building. We owe these people (the early Irish seed pioneers) a huge debt as they did the heavy lifting and it is important that we celebrate their contribution and what they achieved.

Digging a bit deeper under the surface, questions come to those inquisitive enough to ask. Personally, I would like to know who the people were who inspired these early seed pioneers and what were their motivations a generation ago. How has their vision changed over the intervening years and what do they think of the prospects for the future? There is so much we can still learn from them as they are so much further down the road than us. Yes, they made mistakes, pioneers do, otherwise how did they learn, but now they have great wisdom that needs to be shared.

The world has changed a lot in the last 18 months and its time to reappraise where we are especially in relation to seeds. It's a time of passing on the baton of seed to the next generation and making sure they are equipped with knowledge to keep that baton passing to new hands. The recent upheaval and the overbearing shadow of climate

disruption mean that people are awakening to the importance of good seed. Like a seedling we must nurture that impulse to grow and equip the next generation to keep up that momentum.

Back in the day people used to call to houses for a chat, this was before WhatsApp, Zoom, text messages and email. The conversation would be wide ranging and often ended up putting the world to rights. We still need to have those conversations.

Seeds and the people around seeds are all about those stories, its what draws us in, keeps us connected, nourishes our community, and protects their future. Look for some spark of that in our Seed Gathering, put the kettle on, make a cup of tea, get comfortable and join in.



Global Allies and Inspirations



CENTRAL & NORTH AMERICA

1. Hawai'i: <http://kohalacenter.org/hpsi>
2. Minnesota: <https://nativefoodalliance.org/our-programs-2-indigenous-seedkeepers-network/>
3. Arizona: <https://www.nativeseeds.org/>
4. Colorado: <https://rockymountainseeds.org/>
5. Across the US: <https://osseeds.org/>
6. Iowa: <https://www.seedsavers.org/>
7. Virginia: <https://www.southernexposure.com/>
8. Washington: Organic Seed Alliance <https://seedalliance.org/>
9. Canada: SeedChange <https://weseedchange.org>
10. Nicaragua: <http://www.fecodesa.org.ni/>
11. Mexico: <https://somossevilla.org/english/>

CENTRAL & SOUTH AMERICA

12. Brazil: <https://www.sementesdoxingu.org.br/site/home/>
13. Argentina: <https://steps-centre.org/latin-america-hub-bioleft-experimenting-with-open-source-seed-innovation-in-argentina/>

AFRICA

14. Zimbabwe: <https://swiftfoundation.org/the-zimbabwe-seedsovereignty-programme/>
15. Uganda: <https://www.nape.or.ug/>
16. Burkina Faso: <http://apnsahel.org/>
17. Ethiopia: <http://eosa-ethiopia.weebly.com/>

EUROPE

18. Netherlands: <https://aseed.net/>
19. Belgium/Europe-wide: <https://liberatediversity.org/>
20. Denmark: <https://www.froesamlerne.dk/>
21. Germany: <https://www.nutzpflanzenvielfalt.de/>
22. France: <http://www.graines-de-noe.org/>
23. Switzerland: <https://www.prospezierara.ch/>
24. Austria: <https://www.arche-noah.at/>
25. Spain: http://www.holisticdecisions.com/sb_seed_library.html
26. Italy: <https://rsr.bio/>
27. Croatia: <https://www.zmag.hr/en/>
28. Cyprus: <https://www.seeds4all.eu/seed-suppliers/cyprus-cyprus-seed-savers/>
29. Portugal: <http://circulosdesementes.blogspot.com/>

ASIA

30. Palestine: <http://www.qattanfoundation.org/en/whkSeedlibraryEn>
31. India: <http://bit.ly/V9oBnc>
32. India: <https://navdanya.org/site/>
33. India: <http://cintdis.org/vrihi/>
34. Philippines: <https://globalseedsavers.org/>
35. Taiwan: <https://avrdc.org/>

AUSTRALIA

36. Seed Savers Network: <http://www.seedsavers.net>

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