> *"The core values are knowledge transfer and industry-wide collaboration."*

Crops and kit

Aligning variety choice and establishment methods is fundamental for regenerative success. *CPM* looks at the crops and kit offerings at this year's Groundswell.

By Charlotte Cunningham

When it comes to traditional variety selection, one might sit down with the AHDB Recommended List to highlight those of interest and then head to regional sites to see if its paper claims match up with in-field performance.

The priority characteristics may vary from farm-to-farm, but more often than not, it's yield that's king — closely followed by the desire to plant something that offers a 'good all-round' package. But are these priorities the same when selecting a variety for a regen system?

In a recent survey carried out by *CPM* (May 2022), growers noted the feeling of a lack of information — stating that they'd like to see more on how varieties perform under low or no nitrogen settings, or different tillage systems, to name a few.

To address some of these thoughts, NIAB's Dr Phil Howell will be discussing the challenges of breeding the best varieties for regenerative agriculture in the NIAB Seminar Tent on day one (22 June) of this year's Groundswell.

Ahead of the event, Phil gave *CPM* a flavour of what he'll be discussing during his seminar, and an insight into some of the challenges facing breeders and how these may be addressed as the interest grows for regen-suitable varieties.

"It's often mentioned that for many crops, yields seem to be reaching a plateau. However, we know that in trials, yields are continuing to increase as new varieties are released, which leaves a gap between what's happening in trials and what's happening on farm.

"This raises the question of whether our trials and testing system is still the best and fairest way of identifying the best varieties for growers and their customers."

Failing system

Breeders are in a difficult situation, reckons Phil. "They want to produce varieties that do well on farm as these will capture market share over a relatively long period. But before they can market these varieties, they have to pass through National List testing, which follows a well-established and rigorous protocol set by APHA.

"However, being added to the National List is rarely enough to guarantee sufficient market share to cover the costs of running a breeding programme, and performing well on the RL — or for more minor crops, a Descriptive List — is the gateway to market success. So, varieties must first clear the hurdles required of the NL/RL testing system before they have a chance to assert themselves on farm."

Phil adds that this means breeders are left trying to address two overlapping, but different problems: what will do well in the testing system, and what will do well on farm.

"When we move to regenerative farming systems, including organic farming as an extreme example, there's a bigger discrepancy between the status quo of the testing system and practice on farm. How can breeders possibly produce the best varieties for organic farming through the current testing system?

"Breeding is most effective when selection in early generations most closely matches the situation a finished variety will be in."

What's more, breeding is expensive, he adds. "A typical large wheat breeding programme has annual operational costs which run into the millions, so breeders will try and recoup those costs by chasing the largest royalty market, which is still conventional agriculture."

Phil notes that breeders will screen for varieties better suited to less intensive farming systems, often, but only by testing the few varieties that have emerged at the end of the "selection funnel" rather than earlier in the process, when there is still more useful variation to select from. "So variety improvement for these situations is probably slower than it could be.

"In the Groundswell session I hope to talk in general terms about this problem and include some views from breeding companies and AHDB about steps that have been taken to make new varieties more sustainable.

"My NIAB colleague, Dr Stephanie Swarbreck, will also be on hand to discuss some of the work she has been doing to improve N-use efficiency and soil-root interactions. We will also be joined by Dr Ambrogio Costanzo from Organic Research Centre, who will discuss the approaches the organic sector is taking."

As well as gleaning the latest cropping advice from the experts in the seminar tents, the Groundswell Agronomy team will also be on hand at the event to provide advice to growers who are keen to explore, or perhaps already on, a journey towards implementing a more

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regenerative system.

The Groundswell Agronomy team is made up of agronomists and consultants with a shared passion for the regenerative production of food, fibre and renewable energy.

"The biggest challenge to adopting regenerative agriculture really is working out how to do it — coming from an industrial farming background, like most of us are, and then trying to completely change the system," says host farmer, John Cherry.

"One of the reasons we set up Groundswell Agronomy was so that people could find agronomists who were talking the same language."

On the team is Richard Harding, who says that the service can provide all sectors of agriculture with the solutions they require to maintain and improve farm business profitability in the face of a gradual reduction in BPS, growing environmental concerns over conventional food production, and a need to move beyond sustainable to a truly regenerative agricultural system. "Groundswell Agronomy is a service available to anyone interested in investigating anything from a full system rethink to just one specific technique, and can be tailored to provide as much or as little on-going support as required. The core value of the service is knowledge transfer and industry-wide collaboration."

And for those who want to see crops in the ground, KWS will be presenting a number of varieties, alongside cover crop plots from Kings Crops. Barenbrug also have a number of grass and herbal ley plots.

What's more, there will be a chance to see the results from a biostimulant trial which has taken place on site. This tramline trial will see products from Amino A, Unium, Nutricor, Aiva Fertiliser, Timac Agro and Interagro go head-to-head in a bid to let growers see for themselves if the proof really is in the pudding when it comes to using biostimulants.

And it's not just about what you put in the ground, but also how you do it…

While moving to a less invasive approach to soil movement is part of the foundations of the regenerative movement, the financial investment in machinery is often noted as a barrier to growers hoping to embark on the transition.

Therefore, ensuring any investment aligns with farm priorities is key, and to help growers do just that, this year's Groundswell will once again feature a direct drill demonstration zone to allow growers to compare the performance of some of the leading direct drills in real life conditions — as well as a range of static kit on display. ■

Manufacturers taking part in the demonstration zone include:

- Amazone
- Claydon
- Primewest
- Dale Drills
- Horizon Agriculture
- Horsch
- John Deere
- Kverneland
- Novag
- Ryetec
- Samagri
- Simtech T-Sem
- Sumo
- Opico
- Weaving machinery