



# Cereal YEN Entrants Pack

## Welcome to the Cereal Yield Enhancement Network (YEN)

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### IMMEDIATE ACTIONS

- Collect and return your soil sample
- Complete and return parts 1&2 of Entry Pack (Entry details and Site details)

### PRE-HARVEST ACTIONS

- Take overhead crop photos at GS31 & GS61
- Record key Growth Stage Dates: 31,61 &87
- Collect and send whole-crop grab sample just before harvest

### POST-HARVEST ACTIONS

- Collect and return grain sample at harvest
- Complete and return sections 3 & 4 of the Entry Pack
- Return Yield Entry Form
- Return all outstanding information

### DO-IT dates

### ... and the DROP-DEAD day

APRIL	Return Soil Samples and GS31 overhead photos	30 APRIL
SEPTEMBER	Return Grab and Grain samples, and GS61 overhead photos	30 SEPTEMBER
SEPTEMBER	Return Yield Form with verification, and completed Entry Pack	15 OCTOBER

## SOIL SAMPLING KIT

As part of the YEN competition, NRM provide free soil assessments for YEN entries up until the end of April. Soil samples after April are still encouraged but will need to be paid for. Once you have registered and confirmed the postal address, a soil sampling kit will be sent to you. Top Tips for sampling soils for YEN are given below; all images in this section are courtesy of NRM.



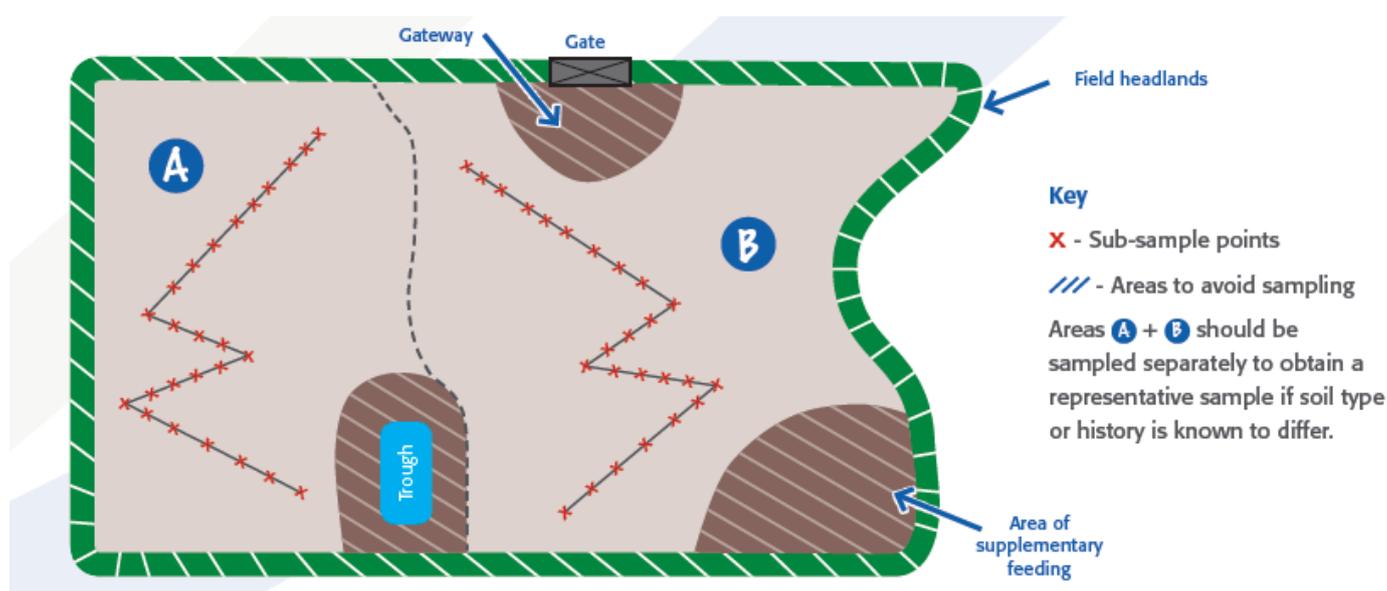
### Top Tips for sampling soils for the YEN

#### Before taking the sample

- A fresh soil analysis on the YEN-entered area is needed to assess soil health etc. Previous soil analyses are only useful if sampling of the YEN-entered area proves impossible.
- Ideally sample by February but leave more than 4 months after P or K fertiliser or lime applications and more than six weeks after any organic manure application. NRM provides free analysis for YEN entrants before May.

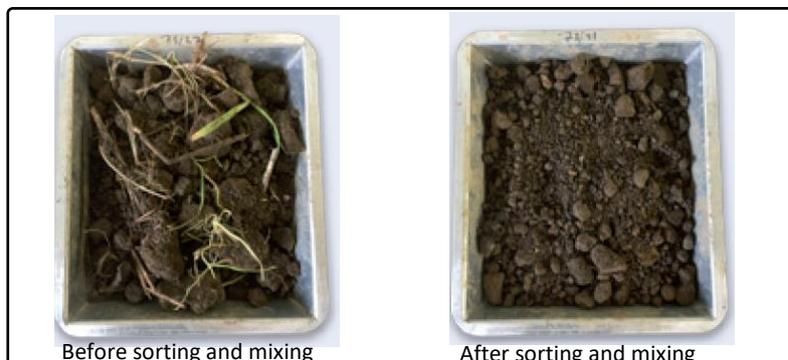
#### Where & how to sample

- Make sure you have a suitable soil corer or auger for your sampling depth. The sampling depth can be 15 cm or 23 cm if the land has been ploughed in the last few years, but should be 23 cm if min-till or no-till cultivations have been used recently.
- To avoid cross contamination, clean your soil auger and bucket between sampling areas.
- The sample should be taken to represent the whole YEN-entered area. Take 20-25 cores from sampling points forming a 'W or M' pattern across the area.
- Avoid taking samples from headlands, or in the surrounding areas which will not be included in the YEN-entered area (please refer to diagram below).



### Preparing & labelling your sample

- Remove all roots, plant material or accumulated surface organic matter in the sample and mix together the sub-samples from all 20-25 positions in a clean container to form a representative sample. See images before and after sample preparation below.



- Place approximately 300g in the packaging provided by NRM (either box or medium grip-seal bag filled to top of middle line)
- Clearly label and seal each sample with your YEN entry number (e.g. CF0XXXX) and field name (e.g. Big Field)
- Paperwork (provided by NRM) must accompany the samples.

## CEREAL YEN ENTRY PACK

The Cereal YEN Entry Pack contains five sections:

1. YEN Entrant Details
2. Competition Site Details
3. Crop Observations and Actions
4. Crop Agronomy
5. Rainfall & Irrigation

**Sections one** and **two** will be pre-populated with some information. This should be checked, and any additional information must be returned to [yen@adas.co.uk](mailto:yen@adas.co.uk) as soon as possible.

**Section three** will need updating over the course of the competition, and should be returned before harvest to [yen@adas.co.uk](mailto:yen@adas.co.uk)

**Section four** should be completed over the course of the competition, and return after harvest.

**Section five** is for you to add any rainfall data you collected on farm. You do not need to provide this data. If you irrigated your crop, you must provide monthly details of the amount of water added.

The Entry pack will also include the full YEN Rules.

## 1. YEN Entrant Details

The **YEN Entrant Details** section contains information about the people involved with the competition entry(s). Contact details should be kept up to date to ensure you are kept up to date throughout the competition. This section also confirms the address that the **Soil Sampling Kit** and **Harvest Pack** will be sent to.

### Key points

- If you are entering multiple fields, you will need a separate Entry Pack per entry.
- If you do not have a sponsor, you will be asked to confirm payment at the start of the competition.
- Confirm whether your entries are field sites, or commercial trial sites.
- Confirm the farm address, and a postal address (if different).
- We will allocate a YEN Field ID for each entry. Please provide the field name as well.

### ACTION REQUIRED – YEN ENTRANT DETAILS

- Confirm the contact details for the main point of contact for your YEN Entry
- Provide field name.
- Confirm the address to which the Soil Sampling Kit, Harvest Pack and invoice (if applicable) should be sent.
- Return information to [yen@adas.co.uk](mailto:yen@adas.co.uk) as soon as completed.

## 2. Competition Site Details

To calculate the potential yield of your entry, we need to know how much light energy and water was available to your crop. The amount of light available is calculated from weather data based on your crop's location. Water availability is based on rainfall, and your soil description from which we estimate its water holding capacity.

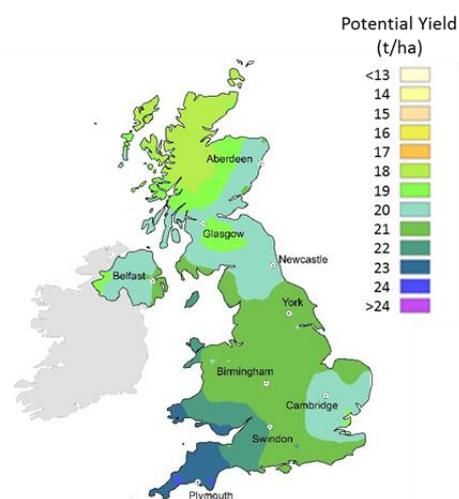
To calculate potential yield, we assume a theoretically 'perfect' variety grown, with 'inspired' husbandry on your land, achieving either:

(i) **60% capture of light-energy** through this season (including some in August), and its conversion to 1.4 tonnes of biomass per terajoule

or

(ii) **Capture all the available water** held in the soil to 1.5 m depth (or to rock if less) plus all rainfall from April to July, and conversion of each 18 mm into a tonne of biomass per hectare.

Taking the lesser of these two biomass amounts, we assume that a maximum of 60% of this biomass can be used to form grain (this is the 'harvest index').



**Figure 1** The potential wheat yields for soils holding 210 mm water based on long term average weather data (1981-2010).

## ACTION REQUIRED - COMPETITION SITE DETAILS

- Confirm crop **Location** (in form of grid reference/lat and long) in Entry Pack
- Confirm **Soil details** in Entry Pack. Essential data includes
  - Top soil texture (pick from list)
  - Top soil stone content (estimate %)
  - Sub soil texture (pick from list)
  - Sub soil stone content (estimate %)
  - Depth to rock
  - Type of underlying rock (if less than 1.5m deep)
- Return information to [yen@adas.co.uk](mailto:yen@adas.co.uk) as soon as completed

The additional information requested in the Competition site details section of the Entry Pack will provide more complete background information about your entry. This will assist ADAS Crop Physiologists in preparing on your entry in your final report.

There are several online tools that can be used to find location information, e.g. [www.gridreferencefinder.com](http://www.gridreferencefinder.com).

### 3. Crop Observations and Actions

This sheet contains information about how the crop performed over the season. For each entry we ask that you record the dates at which the following events occur:

- Sowing
- Emergence (rows first evident)
- Stem extension (GS31)
- Flowering (GS61)
- Senescence completed – crop no longer green
- Ripe to harvest
- Actual harvest date

This information is essential in building up a picture of how your crop performed.

#### Photos

We ask for two photos of the crop; the first in March, before or at stem extension, and the second in June/July, at or shortly after flowering.

- Take images at three locations from above the crop looking vertically down, trying to cover as wide an area as possible and including a sheet of A4 paper laid flat on the crop.
- Name the file with the YEN field ID number, for example YEN00500\_March.jpg.
- Submit the image as jpeg files to [yen@adas.co.uk](mailto:yen@adas.co.uk)
- Photos allow us to estimate canopy size, nutrition and health, as well as providing an independent assessment of ears per m<sup>2</sup>.



Example of digital photo of the crop after flowering

### **ACTION REQUIRED – OBSERVATIONS AND ACTIONS**

- Record sowing date (and rate, kg/ha seed) immediately
- Record crop growth stages throughout competition
- Return completed information to [yen@adas.co.uk](mailto:yen@adas.co.uk) before harvest, and remaining information with final yield results
- Take crop photo in March (at or before GS31) and send to [yen@adas.co.uk](mailto:yen@adas.co.uk)
- Take crop photo in June (GS61 or soon after) and send to [yen@adas.co.uk](mailto:yen@adas.co.uk)

## **4. Crop Agronomy**

This sheet contains information about how the crop was managed.

If you use Gatekeeper, or a similar agronomy tool, you can send us output from this in place of completing part 1 where applicable; however you will still need to complete parts 2 & 3 in the form. If you only provide agronomy tool outputs, we cannot guarantee that we will be able to add your agronomic detail into your report.

There is also a section for you to add your own comments on how your crop performed, the ideas you were testing, and the impact of any weeds, diseases or pests on the crop.

### **ACTION REQUIRED – CROP AGRONOMY**

- Enter crop applications throughout competition
- Add comments on crop appearance and crop protection as necessary
- Return information to [yen@adas.co.uk](mailto:yen@adas.co.uk) post-harvest

## **5. Rainfall and Irrigation**

If you provide your field location, we will use remotely collected weather data provided by DTN. You can also provide weather data collected on site in this tab, along with any irrigation data.

Irrigation data will be incorporated into the Yield Potential Model, and will affect results.

## CEREAL YEN HARVEST PACK

Prior to harvest you will receive the Harvest Pack, sent to the address indicated in your Entry Pack.

The Harvest Pack will contain:

1. Guidance on collecting grab and grain samples
2. One potato sack, for the grab sample just before harvest.
3. One polythene bag, for the grain sample at harvest.
4. One yield entry form, which should be completed and returned to ADAS as soon as possible. This can either be by post or preferably scanned / photographed and emailed to [yen@adas.co.uk](mailto:yen@adas.co.uk)

### ACTION REQUIRED – HARVEST PACK

#### AT CROP MATURITY (ideally on the day before harvest)

- Collect grab sample from field and return to ADAS as per Harvest Pack guidance

#### AT CROP HARVEST

- Collect grain sample from combine and return to ADAS as per Harvest Pack guidance
- Obtain weighbridge tickets for YEN harvested area
- Record YEN Entry harvest area onto Yield Entry Form
- Record YEN Entry harvest weight onto Yield Entry Form
- Have Yield Entry Form verified by independent verifier
- Send original or copies of Yield Entry Form and weighbridge tickets to ADAS.

To confirm competition winners ahead of the YEN Awards Annual Conference, Yield Entry Forms must be received no later than 15 October. Reports will be provided for entries received after this date, but these will not be eligible for awards.

If you have entered multiple sites, please ensure that you use the correct bags for each sample.

To qualify for the competition you must provide:

- **Weighbridge tickets.** You can provide originals or copies by email, but copies must be legible and must include the grain moisture content.
- **Independent verification.** A verifier must be independent of your entry, and must be able to confirm that the weighbridge tickets represent the harvest area recorded.

Further details are available in the YEN Rules. You will still receive a full report and ranking if weighbridge tickets and/or verification are not supplied, but the entry will not be eligible for any YEN Awards.

## YEN QUALITY AWARDS

Group 1 wheat varieties entered into the Cereal YEN are automatically entered for the YEN Wheat Quality Awards. To ensure you are entered, please name your variety in section 2 of the Entry Pack.

In the Harvest Pack we will ask for at least 5 kg of grain from your combine at harvest. If your entry is a Group 1 variety, and is shortlisted for the awards, the grain will be sent for further analysis.

### **AHDB Milling Wheat Conference & YEN Quality Awards**

The AHDB Milling Wheat conference usually takes place in early spring. The YEN Quality Awards will be presented at this conference.

## QUICK CALENDAR

YEN ACTION	
January	<ul style="list-style-type: none"> <li><input type="checkbox"/> Return Soil Sample to NRM</li> <li><input type="checkbox"/> Complete Sections one &amp; two of Entry Pack and return to <a href="mailto:yen@adas.co.uk">yen@adas.co.uk</a></li> <li><input type="checkbox"/> Record sowing date, date of emergence, and date of GS31 in Section three of the Entry Pack</li> <li><input type="checkbox"/> Take photo at GS31 and send to <a href="mailto:yen@adas.co.uk">yen@adas.co.uk</a></li> </ul> <p style="text-align: center;"><b>DEADLINE FOR FREE SOIL ANALYSIS – 30 APRIL</b></p> <p style="text-align: center;"><b>Samples received after this date will be subject to additional costs</b></p>
February	
March	
April	
May	<ul style="list-style-type: none"> <li><input type="checkbox"/> Confirm receipt of Harvest Pack</li> <li><input type="checkbox"/> Record date of GS61 and crop senescence</li> <li><input type="checkbox"/> Take photo at or soon after GS61 and send to <a href="mailto:yen@adas.co.uk">yen@adas.co.uk</a></li> </ul>
June	
July	
August	<ul style="list-style-type: none"> <li><input type="checkbox"/> Collect grab sample just before harvest and post to ADAS</li> <li><input type="checkbox"/> Collect grain sample from combine at harvest and post to ADAS</li> <li><input type="checkbox"/> Complete Yield Entry Form and return to ADAS</li> <li><input type="checkbox"/> Record date of harvest in Section three of the Entry Pack</li> <li><input type="checkbox"/> Complete Crop Agronomy Section</li> </ul> <p style="text-align: center;"><b>DEADLINE FOR GRAB AND GRAIN SAMPLES – 30 SEPTEMBER</b></p> <p style="text-align: center;"><b>Samples received after this date may not be included in YEN Reports</b></p>
September	
October	<ul style="list-style-type: none"> <li><input type="checkbox"/> Return all outstanding data to <a href="mailto:yen@adas.co.uk">yen@adas.co.uk</a></li> </ul> <p style="text-align: center;"><b>DEADLINE FOR YIELD ENTRY FORMS – 15 OCTOBER</b></p> <p style="text-align: center;"><b>Yields received after this date will not be eligible for awards</b></p>
November	<b>YEN ANNUAL AWARDS CONFERENCE</b>

## CONTACTS

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Or email [yen@adas.co.uk](mailto:yen@adas.co.uk) for general enquiries.

 @adasYEN

Further information can be found at [www.yen.adas.co.uk](http://www.yen.adas.co.uk)

## SPONSORS

The YEN sponsors have a key role in supporting and steering the evolution of the network and its activities. They have access to network information, intelligence and discussions to support their own yield enhancement initiatives. Without the support of these sponsors, the YEN would not function at all.

