

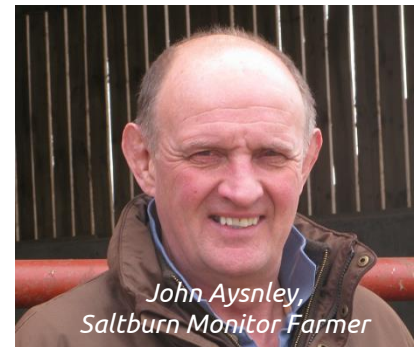
Saltburn Monitor Farm Meeting Report

Meeting 8 – Grain Drying

13th December 2018

Guisborough Rugby Club

For more information, visit: cereals.ahdb.org.uk/saltburn



Meeting Summary – Key Messages

- Consider the whole system on-farm – intake, cleaning, drying and storage – alongside the option of using third party storage.
- Calculate the financial implications of investment, looking at a variety of years.
- Ensure that any new investment is future-proofed for future investment or changes on-farm.

Grain Drying – Charles and James White, JW Installations and Allmet Grain Dryers

No two dryers are the same! When thinking of installing a new grain dryer, the initial questions to consider are:

- Current tonnages
- Future expansion
- Operating time per day
- Planning (Traffic, noise, dust)
- Power
- Operator
- Type of vehicles
- Intake – type (covered bunker, large external bunker, bomb door below ground pit, drive over), capacity and throughput
- Wet storage – tonnage required, incoming crop segregation
- Pre-cleaning/grading – type (dust and chaff, heavy duty aspirator)



There are three types of drying options available: on-floor, batch and continuous flow. It is important to consider the crop varieties to be dried, the moisture levels and expected throughputs and the heat source (gas, radiator, diesel/kerosene).

There are different options available for the control system from basic to fully automated, to suit the operator and owner's preference.

Finally, storage of the dry grain should be part of the consideration – can existing storage be utilised, silos or on-floor. Segregation and capacity should also be considered.

There are operational items that can be used alongside the grain drying operation to enhance the operation, depending on the scale, which include: store monitoring, colour sorting, sampling spears, weighbridges, moisture meters, out loading silo.

Grain drying and storage – The financial implications?

Robert Sullivan, GCS Grays

The financial implications are important to consider for capital investment and to think about the options available. Banks will want to see that extra capacity is included, to cover interest rate rises. Tax considerations could also be considered when discussing whether to invest.

For this discussion, Robert considered three options:

- Large farm: 8,500 tonnes storage, 46t/hr dryer, capital cost - £1.5m
- Medium farm: 5,000 tonnes storage, 30 t/hr dryer, capital cost - £750,000
- Small farm: 2,500 tonnes storage, 18t/hr dryer, capital cost - £400,000

The discussion included the options for using a third-party store, the cost implications for a wet year versus a normal year, saleable grain, capital costs, drying/handling charges, haulage charges and storage charges.

In conclusion, the overall cost benefit to having on-farm storage was as follows:

- | | | |
|----------------|-----------------------|--------------------|
| • Large farm: | Normal year = £50,710 | Wet year = £84,158 |
| • Medium farm: | Normal year = £26,818 | Wet year = £45,596 |
| • Small farm: | Normal year = £8,429 | Wet year = £17,819 |

The other benefits to the two systems included:

- On farm facility: grain marketing remains in house; able to cope with expansion (up to a certain level) – benefit of economies of scale; significant capital asset to the business
- Third party facility: marketing can be undertaken by specialists; no day-to-day management post-harvest (store monitoring and loading out); no significant capital expenditure.

The conclusions from the meeting were that the viability of a modern purpose-built on-farm facility would require a throughput in excess of 2,000 tonnes of grain to justify the expenditure. Below this level, mobile dryers could be used, but a third-party store is likely to be more cost effective. If the farm has adequate on-farm storage facilities, then it is likely that replacing the dryer will be more cost effective than using a third-party store.

Barns Farm - Suggestions

Barns Farm has a grain dryer that was installed in 1997, which John Aynsley has been told that it is coming to the end of its life and so future options are being considered. The farm has approximately 1500 acres of grain, which would normally come in at about 18% moisture.

The questions that John and the group had were around capacity (t/hr), matching combine output to drying capacity, future investment considerations (bigger combines, increase in yield), type of fuel use for dryer, automation and operators.

Following the presentations, the group made the following suggestions for Barns Farm:

- X2 Grain dryers + wet store
- Replace dryer to match conveyors + wet storage + automation
- Big as you can afford
 - + easy to run automation
 - + facility to upgrade/temporary facilities
- Plan a 2 stage approach – where are the weak spots?
- Future extra land considerations?
- Future-proof
- Survey of neighbours that might be keen to collaborate?
- Start again?!

Find out more..... AHDB Information and Research Links

[Grain storage guide](#)

[AHDB Safe Storage Time Calculator](#)

Moisture management is vital to prevent spoilage by fungi and mites



AHDB Safe Storage Time Calculator will help to identify grain in most urgent need of attention

- Uses information on the moisture and temperature levels for stored grain to assess the risks from mold/mycotoxins development, loss of germination and the risk of attack by insects and mites
- Reassesses the risk each time storekeepers input new temperatures and moistures, takes into account the total storage history as the grain is monitored, showing the time in days until the risks become critical

[Grain sampling guide](#)

[Farmbench](#) – free online tool for input of costings and calculation of cost of production for each enterprise.

Further Information

For details about the Saltburn Monitor Farm and past meeting information, please visit:
cereals.ahdb.org.uk/saltburn.

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