

AHDB study tour 2016: potato storage

REPORT

In early 2016, AHDB undertook a study tour to the Netherlands, Belgium and Germany to view potato storage and marketing in North West Europe.

The study tour had a specific aim of progressing the understanding of key elements of potato production in NW Europe. It was undertaken as an opportunity for GB levy payers to view practices first hand and to improve knowledge of the ways in which the European potato markets operate.

The trip took place between Sunday 21st and Friday 26th February 2016. A group of about 18 growers and other industry representatives participated.

The potato storage elements of the tour took place over days 1 & 2 in the Netherlands and Belgium.

Around 20,000 tonnes of commercial storage was visited and, on 22nd February, a meeting was held with Omnivent BV, a major Dutch storage systems supplier, which is part of the APH Group and is based in Zeewolde.

The stores visited comprised a range of formats (Figure 1), covering the four main types of store utilised in the Netherlands (Paul Kok, personal communication) and a further set of bulk stores in Belgium.

Whilst bulk storage has perhaps been the favoured format of storage traditionally, there is also an increasing demand for box storage, especially in the Netherlands. This utilises at least three different

ventilation systems, including the overhead ventilation format favoured for many years in Great Britain. More sophisticated suction and drying wall systems are also gaining in popularity, as growers look to upgrade their stores. In both countries visited, perhaps unsurprisingly, a lot of older but sound storage structures (which may be as much as 50 years old) remain in use but are increasingly being improved through the fitment of new ventilation and/or refrigeration systems, reflecting a similar trend in GB.

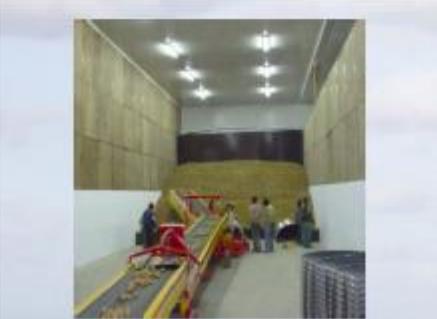
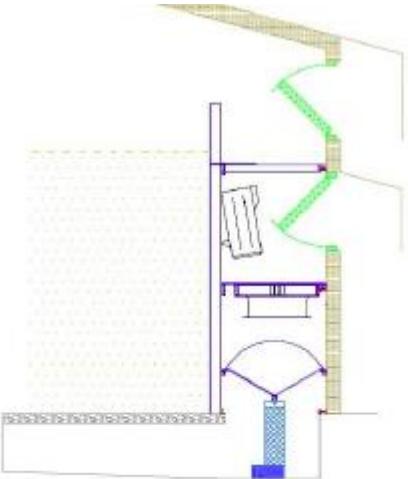
Bulk storage is commonly to a depth of 3.5 – 4 metres with ventilation rates up to c. 0.045 m³/s/t at 150Pa which is on a par with top-end ventilation rates used in GB nowadays (two stores where specific figures were provided were utilising 0.030 and 0.043 m³/s/t). Air delivery was observed to be either through underfloor systems or via on-floor half round ducts, usually arranged longitudinally down the store, with a taper design narrowing to the end of the duct to maintain an even static pressure. These storage systems are very similar to the types of storage which are most commonly in use for processing storage in GB.

In boxes, systems are typically stacked six to eight boxes high although several of the newer stores visited had dispensed completely with stacks at the end of the store ('backfill') in favour of multiple sliding doors (Figure 2). This set-up provides a much greater degree of access to stored stocks than can be achieved through a single store doorway. A few new stores in the UK are also known to have adopted this system, particularly as a result of increasing involvement of European companies in storage systems supply in GB, eg Omnivent, Tolsma, Klim'top and Mooij.

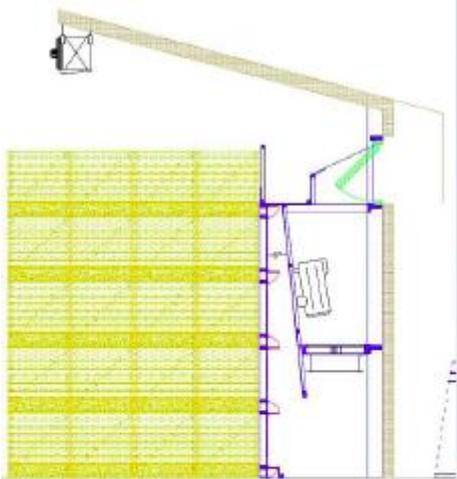
Commercial store sizes seen on the tour varied from c. 500 tonnes to c. 2000 tonnes – i.e. were very similar to typical GB store capacities – although some sites had multiple centralised stores to support co-operating businesses, which is less commonly seen in GB.

Figure 1: Dutch potato storage systems

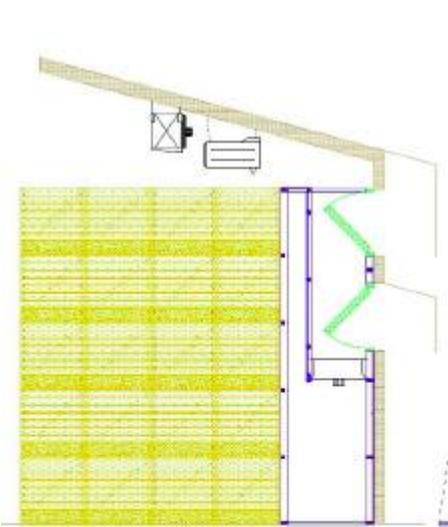
i) BULK



ii) BOX - DRYING WALL



iii) BOX - SUCTION



iv) BOX - ROOM/OVERHEAD VENTILATION

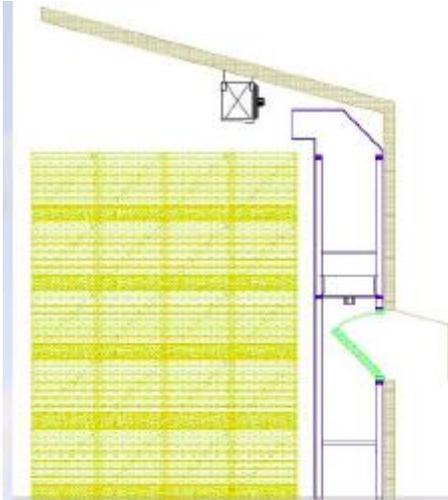




Figure 2: Doors across stack ends to avoid 'backfill'



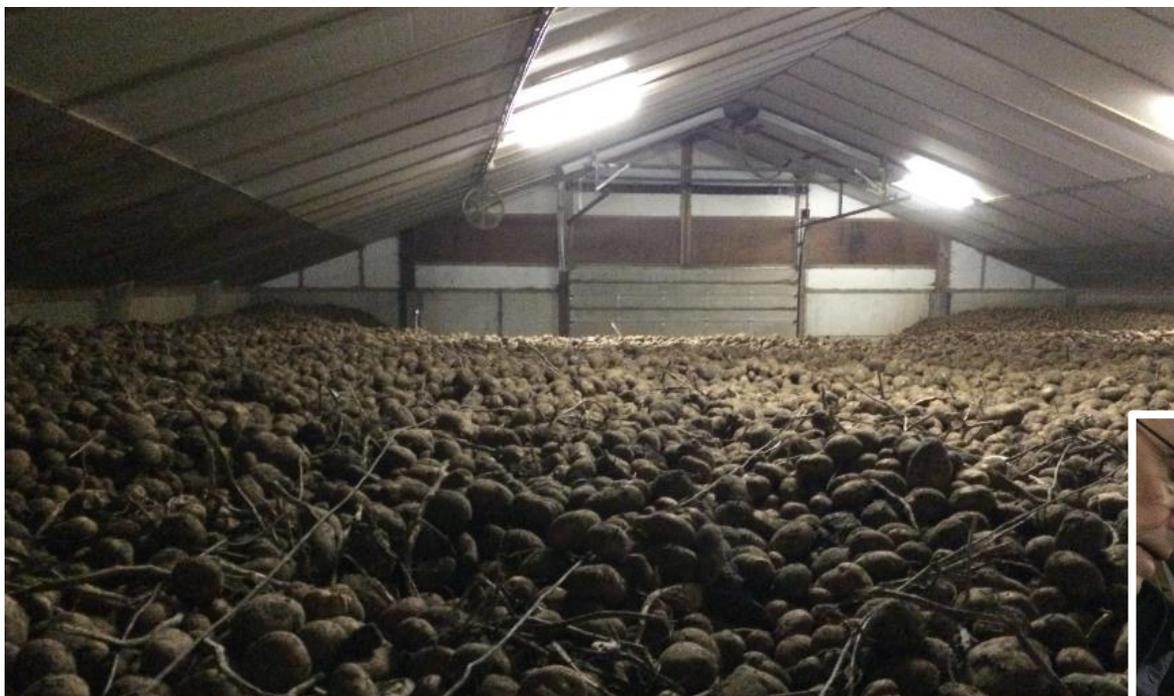


Figure 3: Bulk store running DMN storage trial and (inset) owner Pieter Drost talking to the study tour group





Figure 4: Examples of other stores visited on the tour

Throughout the stores visited, CIPC (chlorpropham) was used for sprout suppression with the exception of one bulk store in Flevoland (P & A Drost, Figure 3) which was running a development trial on 1,4-dimethylnaphthalene, a new molecule which has recently received approval in the Netherlands. Sprout control was good throughout in all the stores visited on the tour.

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