HARVEST 2018

With the maincrop harvest about to get into full swing, growers need to pay attention to reducing damage on the harvester and grader given the drier than normal conditions. Figures from the UK estimate growers are losing approx. £200/ha in damage at harvest time. A few simple checks can make all the difference;

1. Check the harvester for rough edges, rivets, sharp edges, etc. all of which can cause cuts.
2. Ensure the diablo rollers are aligned with the drills. Avoid having too much downward pressure as this will squash tubers near the surface.
3. Check the depth of the share; too shallow and tubers will be sliced. Too deep and extra soil will be brought onto the web and will need extra separation which will slow down the operation.
4. Check disc setting, if it is too wide you risk bringing extra soil and even stones onto the webs. Too deep and again tubers may be sliced.
5. Aim to have the sieving web at 85% filled with tubers (pic.1). If the web is too slow then you risk tubers being forced to the side and damaged. Too fast, tubers will roll back down the web.
6. Keep agitation of the tubers to a minimum. Bouncing the tubers will cause excessive bruising.
7. Check the speed of the rollers if they are turning too fast they can throw tubers up in the air, too slow and they can “grab” the tubers.
8. Watch out for wear on all padding material and side curtains, where gaps appear tubers can get trapped or banged.
9. When transferring to the trailer/box, make sure there is good communication between the drivers. Cushion the fall of the tubers as much as possible. Drop height from the harvester to the trailer can result in significant bruising. Dropping tubers from a height of more than 1m onto a hard floor will result in bruising. Also remember that dropping a tuber more than 1m onto another tuber will damage both!
10. Always check the operator’s manual or consult with the manufacturer when changing settings for different conditions.
11. Carry out daily checks using a hot box for bruising. Set the temperature at 34 -36° C and leave the samples overnight. Inspect the tubers and assess the numbers bruised. Use these inspections to inform the drivers of any issues at harvest.
Teagasc in conjunction with IFA and Grimme are holding a farm walk looking at reducing harvesting damage, details are at the end of the newsletter.

STORAGE

Potatoes will not improve in condition in store but they certainly can deteriorate. Store hygiene is critical when it comes to maintaining quality. Remove all dust and soil before the new crop comes into store. Dust will contain disease spores which will in turn act as a source of contamination for the new crop. Where rots are seen on the grading table disinfect the equipment daily to prevent contamination of the next day’s crop. Products like Jet 5 (peroxyacetic acid) will help to reduce the transfer of infection. Given the dry year we have had keep an eye out for Pink Rot (Pic. 1) which could become an issue in warm soils when they get wet.

Pic. 1 Warm conditions favour pink rot

Make sure that crops are properly cured before going into store is and remember temperature has an important effect on the rate of curing see Table 1.

Table 1:

<table>
<thead>
<tr>
<th>Tuber Temperature (°C)</th>
<th>Initial Suberisation (Days)</th>
<th>Periderm Complete (Days)</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;5</td>
<td>7 - 14</td>
<td>21 - 42</td>
</tr>
<tr>
<td>10</td>
<td>4</td>
<td>7 - 14</td>
</tr>
<tr>
<td>20</td>
<td>1 - 2</td>
<td>3 - 6</td>
</tr>
</tbody>
</table>

Filling the store and box stacking are also an important part of getting the fridge unit working correctly. Make sure that all boxes are filled no higher than water level and that the boxes are stacked in the correct manner to aid air flow. (See fig. 1)

Fig. 1

Remember air will always take the easiest route back to the fridge so make sure that there are no obstacles or alleys in the stack which will result in uneven air flow through the boxes.

There should be at least 10-12 probes in the boxes to monitor temperature. Remember these are sending info back to the fridge telling it when to turn on and off. For box stores a ventilation rate of 0.02m³/s/t is recommended. Over ventilation will result in excess moisture loss and decrease weight, as well as costing money. Under ventilation can result in CO₂ build up, condensation etc. which can cause the spread of disease.

A good guide to managing potato stores can be found on the AHDB website at: https://potatoes.ahdb.org.uk/publications/store-managers-guide

PEST DAMAGE

There have been a number of reports this season of pest damage such as
wireworm and slugs (Pics. 2 & 3) even though the crops were treated. It’s very disheartening to see the damage at the end of the season when all the effort has been put in, but you have to ask was there anything that could have been done to stop this?

Pic. 2; Wireworm eating a potato

Pic. 3; Slug damage

Chemical control for both slugs and wireworm can be unreliable but it tends to be the first control measure that we look at. Application methods also tend to be unreliable as both these pests live under ground near the tubers so unless these chemicals are placed alongside these tubers control will be variable.

In reality the only true control measure for either is prevention. Therefore identifying fields with these problems and avoiding them is the best solution. Try to put in control measures where possible such as crop rotation, stubble cultivation and try to reduce the population before the potato crop goes in, this will be difficult in short term land leases.

At this stage there are no control options other than harvesting the crops as soon as possible. Grade the crop as hard as possible before going into store and try to remove as much of the damaged material as possible to reduce the storage costs. Label the boxes according to the field and separate them in store.

UP COMING EVENTS

Don’t forget Friday 5th October 2017 is National Potato Day. Many organisations are holding different events in different areas to mark the day. It is the one day in the year that the industry as a whole tries to increase the awareness of the potato and how important they are in terms of nutrition. For further details and recipes log on to www.potato.ie

Teagasc/IFA farm walk Wed. 10th Oct, Balrothery, Balbriggan, Dublin (Eircode: K32 WN66) @ 4.30 pm.
The focus of the day is reducing damage at harvest in a dry season. There will be staff from Grimme present on the day to advise on harvester set-up. This will be well worth attending if you are working on a harvester or harvesting crew during the season.

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