Grower Summary

FV 413a

Predicting high risk plantings to manage postharvest pinking in lettuce

Annual 2015

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Use of pesticides

Only officially approved pesticides may be used in the UK. Approvals are normally granted only in relation to individual products and for specified uses. It is an offence to use non-approved products or to use approved products in a manner that does not comply with the statutory conditions of use, except where the crop or situation is the subject of an off-label extension of use.

Before using all pesticides check the approval status and conditions of use.

Read the label before use: use pesticides safely.

Further information

If you would like a copy of this report, please email the HDC office (hdc@hdc.ahdb.org.uk), quoting your HDC number, alternatively contact the HDC at the address below.

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Project Number:	FV 413a
Project Title:	Predicting high risk plantings to manage postharvest pinking in lettuce
Project Leader:	Jim Monaghan, Harper Adams University
Contractor:	Harper Adams University
Industry Representative:	Ms Emma Garrod, G's Fresh
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Project Cost:	£125,455

GROWER SUMMARY

Headline

Postharvest pinking and other measures of postharvest quality varied over the season and between locations for both Iceberg and Cos lettuce. Iceberg lettuce had a greater range of pinking in the ribs; Cos lettuce had a greater range of pinking in the cut surface of the butt/stem.

Background

Following harvest some lettuce can produce pink colouring in the butt and ribs of the outer leaves. This is termed Pinking and, in spite of the development of new varieties with claims of reduced pinking, continues to present substantial problems for producers. Poor product on the shelf reduces sales and leads to more complaints and consumer dissatisfaction. A recent review of research into lettuce pinking (FV 413) identified that issues such as high rainfall/over irrigation have a direct influence on the expression of pinking.

This project is taking Iceberg and Cos lettuce samples from a number of UK commercial lettuce growing sites over two growing seasons. The heads are assessed over storage for the development of pinking and other quality measures. This information will be combined with data on the environmental conditions (agronomic and meteorological) that each crop has experienced. The availability of multiple lettuce crops from March - October means that a wide range of weather conditions can be incorporated into modelling over the two years. Guidelines for identifying high-risk crops will be developed based on local meteorological and crop input records enabling growers to manage crops through the supply chain to the benefit of the customer.

Summary

We have observed significant variation in Iceberg lettuce for rib cracking, rib pinking, butt browning, butt pinking and density. These values vary significantly over the season at each location. In addition, as expected post-harvest quality measures changed significantly during storage of Iceberg lettuce.

Significant variation was observed in Cos lettuce for rib cracking, rib pinking, butt browning and butt pinking but the range of response was less than that observed with Iceberg lettuce. These values varied significantly over the season at each location for most measures of qualitative post-harvest quality of Cos lettuce. Whilst rib pinking and cracking developed in

Cos lettuce during storage, the more significant changes were observed for cut surfaces as observed in butt pinking and browning.

An overview of post-harvest data is presented in the Annual Report only with a particular focus on rib pinking. The meteorological data and agronomic inputs have been collected and formatted, and will be analysed and incorporated into the modelling of two years post-harvest data and this will be reported in full in the Final Report in 2016.

Financial Benefits

It is not possible to extrapolate financial benefits from this work until the model is completed in Year 2. Pinking losses are hard to quantify, but can account for substantial customer complaints at certain times of the year and batch rejections. The importance of the work to the industry can be gauged from the willingness of seven businesses to provide crop samples for the study.

Action Points

It is not possible to derive and propose Action Points from this work until the model is completed in Year 2.