

# Automated Lifting & Trimming

# Cauliflower

## The Clients

**Richard Pearson Ltd and United Vegetables Ltd**

## The Problem

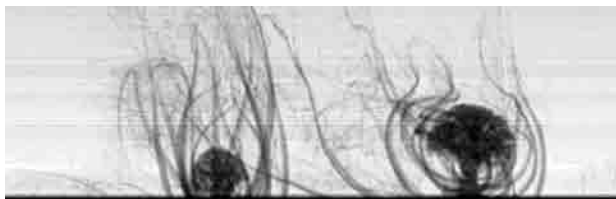
Supermarkets require cauliflowers to be clean, well presented and consistent in size. Unfortunately, individual plant growth rates vary significantly and it is virtually impossible to estimate the size and position of the curd (the part of the cauliflower you eat) when they are completely hidden by leaves. Traditional manual harvesting methods rely on a 'slaughter' harvest, taking all the plants in one pass and accepting the loss in crop value when some plants are lifted too early or too late.



3DX-RAY Ltd worked with two companies, agricultural machine manufacturers Richard Pearson Ltd and growers United Vegetables Ltd, to find a more economical and less wasteful way of lifting and trimming cauliflowers ready for the supermarket shelf. The project, which was funded under a UK Government grant research scheme, asked 3DX-RAY Ltd to investigate methods for automatically identifying which growing cauliflowers were of the optimum size, and how to control the cutting heads to crop and later trim the vegetables.

## The Solution

The prototype system uses our 2DX-Camera™. As the unit is towed along a row of plants, an x-ray imaging processor identifies which cauliflowers are ready for harvesting. Once cut and lifted on-board the harvesting equipment, the cauliflowers pass a second x-ray camera that locates the top and bottom of the curds so that the trimming knives can prepare the vegetables for the supermarket shelf. Size selection, cutting, lifting and trimming are all completely automated.



## Client Benefits

- Reduced labour cost
- Minimal wastage
- Floodlighting not required for harvesting in darkness
- Growers can choose to harvest at night
- Lower temperature reduces refrigeration cost
- Harvesting at night when the plant is biologically 'shutdown' extends product shelf life

This project provides an excellent example of the diverse range of inspection problems that can be solved with 3DX-RAY Ltd's range of modular inspection systems including the MDXI™ series, X-LINE™ and AXIS-3D®.



## Case Study

Using the AXIS-2D™ Camera

www.3dx-ray.com

DATA SHEET



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### World Leaders



3DX-RAY Ltd is the world leader in real-time 3D and 2D x-ray solutions and we aim to become the world's major supplier of advanced imaging / inspection systems for opaque objects in the security screening and industrial inspection markets.

As we grow our range of products and solutions will rapidly expand. For the latest information on our capabilities, please go to our website at: [www.3dx-ray.com](http://www.3dx-ray.com).

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