

Healthy Workplaces Good Practice Awards 2020-2022

CASE STUDY



Automating the stacking of crates and boxes to reduce manual lifting in a vegetable growing company



ORGANISATION/COMPANY

Verdonk Broccoli

COUNTRY

The Netherlands

SECTOR

Agriculture – Growing of vegetables and melons, roots and tubers

TASKS

Planting, harvesting, storing, sorting and packing broccoli; lifting crates of broccoli for transportation



Source: Verdonk Broccoli

Background

Verdonk Broccoli is a vegetable growing company that produces over 3 million kg of broccoli per year. Verdonk Broccoli has 4 permanent and up to 35 seasonal employees who participate in harvesting and processing.

The process begins with planting in the spring, followed by crop work, harvesting (cutting) in summer/autumn, storage in the cold store, processing on the sorting line and preparation for transport.

Verdonk Broccoli is a family business that values sustainability and quality. This is demonstrated by their 'On the way to planet proof' quality mark and their Global Good Agricultural Practices (G.A.P.) certification. They also work with GRASP, an addition to the Global G.A.P. certification. GRASP stands for risk assessment based on social practice.

This system was specifically developed to assess agricultural companies on how they manage their employees. This includes aspects such as health, safety

and welfare. In practical terms, for Verdonk Broccoli this means, among other things: openness, decent working conditions, opportunities for quality training, good housing and safe working conditions.

Over the years, the company has invested heavily in trying to reduce physical effort and awkward postures when carrying out work tasks to avoid workers developing musculoskeletal disorders (MSDs), focusing on eliminating risks at source.

One physically demanding task was in the packing area that involved lifting the crates and boxes of broccoli above shoulder height.

Aims

The aim is to prevent MSDs and reduce physical strain for employees, especially while stacking crates.

What was done and how?

Verdonk Broccoli deems it important for employees to like their work. For this reason, in recent years there has been an increasing focus on reducing physical strain. It has an up-to-date Risk Assessment Evaluation (RIE). A Stigas prevention advisor visits every four years to run through the RIE and give advice on measures and actions. Stigas is a Dutch non-profit organisation that provides risk/safety assessment for the agricultural sector.

The following technical measures were undertaken using the control hierarchy, starting with technical measures to eliminate risks. Central to the approach is the automation of crate lifting.

- When harvesting, employees can easily place the broccoli on the harvesting belt. The broccoli is packed (sealed) fully automatically. Furthermore, platforms are available so that employees can work on the conveyor belt at the right height. However, a problem remained with the stacking process, where the crates and boxes must be stacked on a pallet before they go onto the truck.
- To fill the trucks optimally, high stacking is required. This means that crates and boxes of broccoli have to be lifted above shoulder height. Palletisers were purchased in mid-2020 for lifting the crates and boxes. This eliminates the need for lifting above shoulder height. It also makes the work more efficient.
- When the machines were purchased, there was close consultation with the employee responsible for their maintenance.
- After consultation with the employees, it was decided that the packing speed should not be increased, even though this was technically possible, to avoid worker stress.
- All workers were trained and received instructions on good working posture.

A suitable solution still has to be found for folding crates that are delivered far above shoulder height and cannot be stacked with a forklift truck or other tool. The

company that delivers these crates refuses to deliver them on two pallets with half-high stacks, instead of one high stack.

What was achieved?



Source: Verdonk Broccoli

- Introducing the palletisers has reduced physical strain for employees, leading to fewer health complaints and absences, and a 30% reduction in staff turnover.
- Employees are more satisfied and motivated.
- There are efficiency savings for the company, as employees no longer have to spend the whole day stacking crates.

Success factors

- The problem was tackled at source, as the palletisers remove the need for workers to lift above shoulder height.
- The company is committed to worker safety and health and uses a systematic approach to preventing risks.
- The company consults all affected workers, including maintenance, and takes account of work stress when making changes.
- The company showed leadership and a clear commitment to prevention.



Source: Verdonk Broccoli

Transferability

The approach could easily be adopted by other organisations in the agricultural sector, as well as industries in other sectors that require lifting and stacking crates. However, the initial investment to purchase equipment could be high for small enterprises.

Costs and benefits

The cost of €43,740 for the palletisers can be justified in terms of the occupational safety and health (OSH) benefits for employees who would normally spend the whole day stacking, as well as saving costs for absenteeism, replacement workers, possible injury claims and increases in premiums.

Key features of good practice example

- The company's cultural and systematic commitment to OSH and employees
- Regular risk assessment evaluations carried out by external professionals
- Tackling issues at the source

Further information

Further information can be found at

<https://verdonkbroccoli.nl>

References and resources

<https://www.youtube.com/watch?v=MPDbhVjzP18>

https://www.youtube.com/watch?v=pGAk_qlCSmA

Introducing the palletisers has reduced physical strain for employees, leading to fewer health complaints and absences, and a 30% reduction in staff turnover.