



# Manual handling solutions for the vegetable industry No. 9



## Stacking boxes of vegetables on pallets

### What is the activity?

Stacking boxes of vegetables on pallets below waist level and above shoulder height.

### What are the risks?

Stacking boxes of vegetables below waist level and above shoulder height requires awkward postures, i.e. reaching, twisting and forward bending, increasing the risk of musculoskeletal injuries of the shoulder, arms, neck and back.

Injuries can occur suddenly if the produce is heavy and posture is awkward, or over a longer period of time through wear and tear.

Work can often be undertaken in cold and hot weather; on wet, slippery, uneven surfaces and in cramped conditions.

### What is the solution?

The risk of musculoskeletal injuries can be diminished by:

- Using small boxes and keeping the weight of produce in the boxes within a safe range for the task
- Using a conveyor or adjustable height roller table to transfer boxes of produce from the packing line to the pallet-stacking area
- Ensuring there is adequate space between the end of the conveyor and the pallet at least 1.2 metres so that the worker can take the box off the conveyor, then turn and step in order to place it on the pallet. If the pallet is placed directly next to the conveyor in front of the worker, stacking may occur without significant twisting.

- Placing the pallet on which the boxes will be stacked, onto an adjustable rotating pallet positioner or hydraulic scissor lift table or a pallet swivel, to provide access to all sides of the pallet

Stacking boxes above shoulder height can be prevented by:

- Decreasing the number of layers of boxes stacked on the pallet, then double-stacking pallet loads for transport
- Using mechanical aids, such as forklift attachments to load the higher layers onto the pallet
- Providing a solidly built, non-slip platform for the worker to stand on while stacking (or unpacking) the top layers of boxes. The platform height would need to be:
  - High enough to eliminate above-shoulder lifting and prevent over-reaching
  - Wide enough for the worker to place boxes onto the pallet without twisting

Ideally boxes would be supplied by conveyor so that walking up and down steps is avoided.

Handrails may also need to be installed on the platform depending on the height of the layers being stacked.



## Systems of work

Always consider stability when double stacking of pallets.

Pallets are usually moved by forklift, therefore a traffic management system needs to be implemented to ensure forklifts or their loads do not come in contact with pedestrians and workers.

Drainage should be adequate to reduce or eliminate water in the work areas.

## The activity



## A solution

