



Priorities for the fruit and vegetable industry

Food Sheet No 5

Introduction

This information sheet uses analysis of accidents reported to HSE and local authorities and HSE investigations to point employers, employees and inspectors to the situations and equipment in the fruit and vegetable industry to concentrate upon. Past experience shows that these are the most significant risks. These situations in particular, should be carefully assessed to ensure adequate precautions are, and remain in place. Appropriate precautions will often be self-evident once the risky situations are identified: but further guidance on many topics is available - see References section.

The main causes of injury

Table 1 sets out the causes of accidents in order of priority, together with further details about the sorts of situations and equipment involved.

Inspection of fruit and vegetable activities

The check list in Table 2 is not entirely comprehensive, but covers the main accident-producing situations.

Scope of guidance

This guidance has been based on reports from employers whose main activity is coded to Standard Industrial Classification 4141. This covers processing of fruit and vegetables. Broadly this includes freezing, packing, preserving and pulping, canning, bottling and dried fruit processing of fruit and vegetables.

The reports do not cover the causes of ill health. However experience of this sector and the food industry as a whole suggests the main causes of ill health are likely to be:

- chronic ill health from manual handling;
- dermatitis;
- upper limb disorder (RSI);
- respiratory irritation from inhalation of fumes such as chlorine, hypochlorites, ammonia and sulphur dioxide.

The analysis was confined to injuries reported to the employees of fruit and vegetable processing companies, ie it excludes accidents to visitors and contractors. In practice, few reports seem to relate to injuries sustained off the processing site, eg to drivers.

Relative risks of the industry

The overall incidence rates for the fruit and vegetable industry (ie the number of injuries per 100 000 employed) in 1991/1992, (the last year for which employment totals are available) were 293 for major injuries and 3270 for over-3-day (O3D) absence injuries. This makes the industry the fifth worst for major and O3D of the 19 sectors of the food industry and around twice as risky as the average of general manufacturing at 126 major and 1130 over-3-day. In fact, Table 3, taken from the Health and Safety Commission's Annual Report for 1991/92 shows fruit and vegetables was the eighth worst sector out of the whole of manufacturing industry. Although this was based on 1989/90 figures, it remains valid as the relative rates have not varied much since.

Table 1

Cause	Relative importance	Significant factors
Handling	28% of all reported injuries	50% of injuries were from loads which were too heavy. 25% were sharp and 20% awkward to handle.
Slips and trips	22% of all injuries but the largest cause (at 36%) of major injuries	66% of those with an identifiable cause were slips (usually on wet surfaces) and 25% trips (with tripping over obstructions being twice as common as over uneven surfaces).
Struck by moving objects	10% of all injuries	60% by moving articles (ie falling packages etc) 16% from use of handtools: the remainder by moving parts of vehicles, buildings, pressure jetting and other causes.
Falls	8% of all injuries but the second highest cause (at 20%) of major injuries	Stairs were involved in 28%, ladders in 26%, work platforms in 18% and from vehicles in 15%, ladders caused 50% of falls from a height and accounted for 35% of major injuries.
Striking against objects	6% of all injuries	66% fixed objects and 33% moveable ones.
Machinery	6% of all injuries but 10% of major ones	33% from conveyors: investigations indicate a similar level from packaging machines (eg bagging, form fill seal and palletisers).
Exposure to harmful substances	5% of all injuries	Investigations indicated contact with cleaning fluids (fumes and splashes) and ammonia refrigerant leaks were significant risks.
Transport	5%	95% of major injuries and 77% of all injuries involved being struck by a fork lift truck.

This accounts for of the accidents: the remaining 10% involved collapses (ranging from pallet racking to floor grids), electric shock and explosions.

Table 2 Check list of the main risks and of the precautionary and preventive measures to take

<i>Handling</i>	Avoidance of heavy, sharp or awkward lifting and pulling movements, elimination of such operations, where not reasonably practicable to mechanise: assessment of factors leading to risk and appropriate precautions.
<i>Slips</i>	Measures to avoid spillage and leakage. Measures to contain spillages which cannot be avoided so they do not contaminate the floor. Measures to clear up spillages and dry floor immediately. Effective cleaning, preferably out of hours. Drying of wet floors after cleaning.
<i>Trips</i>	Avoidance of obstructions in walkways and at work stations. Avoidance of uneven floors.
<i>Struck by moving object</i>	Secure, accessible storage for materials and products. Appropriate methods of handling goods. Appropriate selection and training in use and maintenance of handtools.
<i>Falls</i>	Identify all areas where access is likely to be needed and arrange safe access. Check condition of stairs and maintain free of slipping risks and with adequate handrails. Safe system of work for use of ladders. Avoid need for access onto vehicles, where not reasonably practicable: ensure safe access.
<i>Striking against objects</i>	Avoidance of crowded conditions.
<i>Machinery</i>	Check guarding and hazards, especially at conveyors and packaging machinery: see machinery can be set, maintained, fed, blockages cleared and cleaned with guarding in place or with machine isolated and stationary.
<i>Exposure to harmful substances</i>	Assessment of how risk arises and can be controlled. Safe systems for handling cleaning substances, correct use of personal protective equipment. Effective management of refrigeration systems.
<i>Transport</i>	Selection and training of fork lift truck operators.

HSC Annual Report 1991/92

Table 3 Manufacturing industries with all reported injury rates double the sector average - 1989/90

<i>Activity</i>	<i>Rate</i>
Spinning and weaving of flax, hemp etc	7111.1
Preparation of milk and milk products	4574.1
Slaughtering of animals and production of meat	4557.7
Saw milling and planing	4444.4
Retreading and specialist repairing of rubber tyres	4388.9
Brewing and malting	4027.0
Shipbuilding and repairing	3587.9
Processing of fruit and vegetables	3361.2
Cement, lime and plaster	3333.3
Fish processing	3326.4
Iron and steel	3241.2
Grain milling	3219.2
Organic oils and fats	3125.0
Motor vehicles and engines	2987.5
Wines, cider and perry	2894.7
Manufacture of semi-finished wood products and processing and treatment of wood	2866.7
All manufacturing industries	1323.0

References

- 1 *Essentials of health and safety at work* 1994 ISBN 0 7176 0716 X
- 2 *Safe management of ammonia refrigeration systems: Food and other workplaces* PM81 1995 ISBN 0 7176 1066 7
- 3 *Manual handling: Solutions you can handle* HSG115 1994 ISBN 0 7176 0693 7

4 *Slips and trips: Guidance for the food processing industry* HSG156 1996 ISBN 0 7176 0832 8

5 *A recipe for safety: Health and safety in the food industry* TOP 05 1994 ISBN 0 7176 0911 1 (available in priced packs of five)

6 *Rider operated lift trucks - operator training: Approved Code of Practice and supplementary guidance* 1988 ISBN 0 7176 0474 8

7 *Workroom temperatures in places where food is handled* FIS3 Free HSE information sheet

Further information

HSE priced and free publications are available by mail order from:

HSE Books
PO Box 1999
Sudbury
Suffolk CO10 6FS
Tel: 01787 881165
Fax: 01787 313995

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For other enquiries ring HSE's Infoline, tel: 0541 545500, or write to HSE's Information Centre, Broad Lane, Sheffield S3 7HQ.

HSE home page on the World Wide Web:
<http://www.open.gov.uk/hse/hsehome.htm>

This leaflet contains notes on good practice which are not compulsory but which you may find helpful in considering what you need to do.

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