

AG13

COSHH essentials for farmers

Cleaning and grading bulbs, roots, tubers, etc

Control approach 2 Engineering control

This information will help employers, the self-employed and contractors comply with the Control of Substances Hazardous to Health Regulations 2002 (COSHH), as amended, to control exposure and protect workers' health.

It is also useful for trade union safety representatives.

This sheet describes good practice using dust extraction.

It covers the key points you need to follow to help reduce exposure to an adequate level.

It is important to follow all the points, or use equally effective measures.

Main points

- High dust levels are produced when handling bulbs and roots.
- Keep exposure as low as possible using all the controls in this sheet.
- Health surveillance is usually needed - see sheets G402 and G403.
- For further advice on dust extraction systems see sheet G406.
- See sheet G409 for air sampling.

Hazard

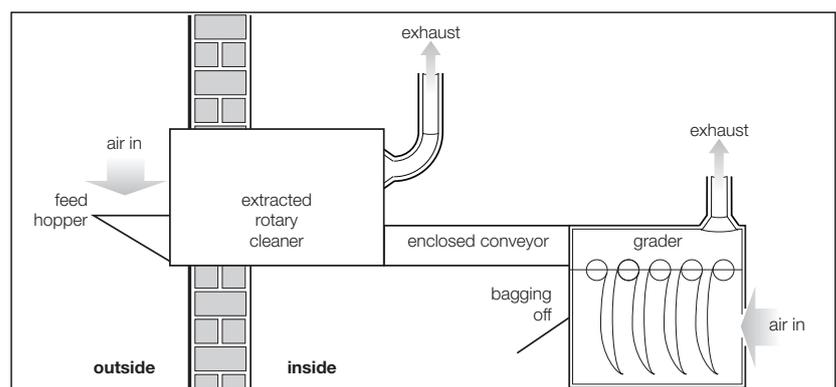
- ✓ Dust from roots and bulbs can cause asthma. Dust from dry soil may contain silica that produces respirable dust.
- ✓ Control exposure to stop occupational lung diseases developing - this means short-term as well as long-term exposure.
- ✓ Keep exposures below 0.1 mg/m³ respirable crystalline silica (RCS) (based on an 8-hour time weighted average).
- ✓ If an individual develops occupational asthma, avoid further exposure.

Access and premises

- ✓ Only allow access to trained people. Keep everyone else away.
- ✓ Segregate the tipping point and cleaning machine from the power controls and other work areas.

Equipment and procedures

- ✓ Provide a good standard of general ventilation; 5-10 air changes per hour, with a through draught.
- ✓ Minimise the amount of time that workers need to spend next to the machines while they are running.
- ✓ Fit dust extraction to the cleaning machine, elevators and conveyors, grading machine and bagging-off points.
- ✓ You need an inward air speed between 1 and 2.5 metres per second into the openings.
- ✓ Fit manometers or pressure gauges near extraction points, to show that the system is working properly.
- ✓ Mark the acceptable range of readings.
- ✓ Always confirm that the dust extraction is turned on and working. Check the gauges.
- ✓ Discharge cleaned, extracted air to a safe place outside, away from doors, windows and air inlets.



- ✓ Replace extracted air - supply clean air into the workroom.
- ✓ Consult a qualified ventilation engineer to design new control systems or to update current controls. See sheet G406.

Caution: Bulb handling (eg narcissus, etc) can cause dermatitis.

Respiratory Protective Equipment (RPE)

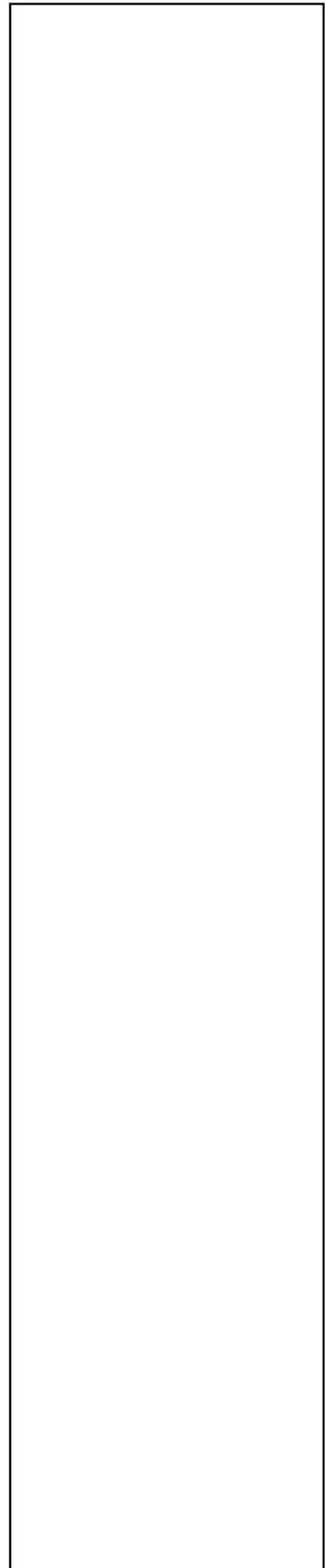
- ✓ RPE should not be needed if the extraction works properly.
- ✓ RPE is needed for maintenance and cleaning inside the machinery.
- ✓ Powered or air-fed RPE is more comfortable to wear.
- ✓ Select RPE that suits the wearer, the job and the work environment.
- ✓ Use RPE with an assigned protection factor (APF) of at least 10. See sheet R2.
- ✓ Disposable RPE, type FFP2, is acceptable. Don't use 'nuisance dust' masks.
- ✓ Make sure that RPE fits properly - get advice from your supplier or read the instructions on the box.
- ✓ Train workers to check their RPE works properly before use.
- ✓ Replace RPE filters as recommended by the supplier. Throw away disposable RPE at the end of the day, or sooner if heavily soiled.
- ✓ Keep RPE clean and store it away from dust.

Other protective equipment

- ✓ Provide overalls that do not retain dust, eg smooth synthetic fabrics - not cotton or knitted.
- ✓ Provide protective gloves - single-use nitrile gloves are acceptable. If you must use latex gloves, use only 'low-protein, powder-free' gloves.

Maintenance, examination and testing

- ✓ Follow instructions in maintenance manuals - keep equipment in effective and efficient working order.
- ✓ Every time you use the equipment, look for signs of damage, eg to ducts and seals. Noisy or vibrating fans indicate a problem.
- ✓ At least once a week, check that dust extraction and gauges work properly.
- ✓ If the extraction is faulty, use RPE until it is repaired, and when carrying out repairs.
- ✓ You need to know the manufacturer's specifications to check the extraction's performance.
- ✓ If this information isn't available, hire a competent ventilation engineer to determine the performance needed for effective control.
- ✓ The engineer's report must show the target extraction rates.
- ✓ Keep this information in your testing log-book.
- ✓ Get a competent ventilation engineer to examine the extraction thoroughly and test its performance at least once every 14 months. See the HSE publication HSG54 - see 'Further information'.
- ✓ Examine and test non-disposable RPE thoroughly at least once every three months.
- ✓ Keep records of all examinations and tests for at least five years.
- ✓ Review records - failure patterns show where preventive maintenance is needed.
- ✓ Carry out air sampling to show that RCS is under control. See sheet G409.



Cleaning and housekeeping

- ✓ At least once a day, clear up waste.
 - ✓ Use gentle shovelling and a Type H vacuum cleaner fitted with a HEPA filter, or wet clean to avoid stirring up dust.
- Caution: Don't use a brush or compressed air, and never use compressed air to remove dust from clothing.**

Health surveillance

- ✓ There is a chance of asthma developing, even with good controls in place.
- ✓ There is also a dermatitis risk in handling some roots and bulbs.
- ✓ Use health surveillance - see sheets G402 and G403.
- ✓ See sheet G404 for information about health surveillance for silicosis.
- ✓ Ask an occupational physician for advice - see 'Useful links'

Training and supervision

- ✓ Tell workers that dust can cause lung diseases including asthma, and if there is a dermatitis risk. Show them this sheet.
- ✓ Working in the right way and using the controls correctly is important for exposure control. Train and supervise workers. See sheet AG0.
- ✓ Ensure that health surveillance is carried out on everyone that needs it.

Further information

- *Maintenance, examination and testing of local exhaust ventilation* HSG54 (Second edition) HSE Books 1998 ISBN 0 7176 1485 9
- *Respiratory protective equipment at work: A practical guide* HSG53 (Third edition) HSE Books 2005 ISBN 0 7176 2904 X
- *Preventing asthma at work. How to control respiratory sensitisers* L55 HSE Books 1994 ISBN 0 7176 0661 9
- *Preventing dermatitis at work: Advice for employers and employees* Leaflet INDG233 HSE Books 1996 (single copy free or priced packs of 15 ISBN 0 7176 1246 5)
- See www.hse.gov.uk/pubns/agindex.htm for other advice on health and safety risks in agriculture.

Useful links

- For information about health and safety, or to report inconsistencies or inaccuracies in this guidance, visit www.hse.gov.uk/. You can view HSE guidance online and order priced publications from the website. HSE priced publications are also available from bookshops.
- Contact the British Occupational Hygiene Society (BOHS) on 01332 298101 or at www.bohs.org for lists of qualified hygienists who can help you.

This document is available at: www.hse.gov.uk/pubns/guidance/ and www.hse.gov.uk/coshh/essentials/

Employee checklist

- Are the dust controls turned on and working?
- Look for signs of leaks, wear and damage.
- If you find any problems, get them fixed. Don't just carry on working.
- Co-operate with health surveillance.

This document 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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