



Level 2 Certificate in Pest Control

November 2004

72 Guided Learning Hours

QCA Qualification Number 100/1631/4

Description

This Level 2 qualification is designed to provide an understanding of public health pests and their control. It fulfils the legal requirement relating to the training of pest control technicians as set out in the Control of Pesticides Regulations 1986. Whilst not intended exclusively for people working in pest control, candidates who are, or are intending to be, so employed will be better equipped to carry out their professional duties safely, efficiently and humanely. The syllabus covers rodent control, invertebrate control, health and safety and accident prevention, legislation, customer care and control of non-rodent mammals and birds.

The qualification is divided into three units (Vertebrate Pests, Invertebrate Pests and Health, Safety and Legal Aspects).

This qualification was produced with the support and endorsement of the National Pest Technicians Association

Unit 1: Vertebrate Pests

Summary of Outcomes:

To achieve this unit a candidate must:

1. **Review the biology, behaviour and need for control of a range of vertebrate pests, by being able to:**
 - Identify a range of vertebrate pests
 - Relate aspects of the animals' biology and behaviour to their importance as a pest
 - Explain the need to control vertebrate pests

2. **Evaluate the site of an infestation of vertebrate pests, by being able to:**
 - Determine the size and nature of an infestation
 - Recognise structural features that may contribute to an infestation
 - Describe environmental factors that affect an infestation
 - Propose control methods

3. **Outline methods for the control of vertebrate pests, by being able to:**
 - Review non-chemical methods for the control of vertebrate pests
 - Describe chemical control methods for vertebrate pests
 - Explain post-treatment procedures

Content:

1. **Biology of vertebrate pests**

Biology: identification of rodent species and non-rodent vertebrates able to achieve pest status; biology and life cycles of these animals relevant to their pest status.

Behaviour: behaviour of these animals relevant to their pest status; environmental requirements for development of infestation; nature, reasons, sources of and evidence for infestation.

Need for control: damage to structures and services, diseases carried, food spoilage and contamination, nuisance factors; legislative requirements.

2. Evaluation of the site of an infestation

Size and nature of an infestation: survey methods; evidence of infestation; importance of client information, personal observation and past history of the site; source of pests, harbourage sites and distribution pathways; sources of food; pest access.

Structural features: general principles of drainage system construction and layout; identification of different types of sewer system; identification of damage to drainage and sewerage systems, appropriate testing systems; importance of defective drainage fittings; building defects and design features associated with infestations; proofing of building; general condition of building and neighbouring properties.

Environmental factors: harbourage sites and sources of food within local environment; features of local environment likely to support an infestation such as communal waste bins, rubbish tips, ponds; problems associated with fly-tipping and bird-feeding.

Control methods: selection of most appropriate course of action; legislation relating to the course of action and target animal; risk to non-target and protected species; risk assessment of site and proposed course of action; health and safety considerations.

3. Control of vertebrate pests

Non-chemical control methods: hierarchy of control methods; elimination of factors conducive to pest infestation such as harbourage and food; environmental management; good housekeeping of premises; proofing of buildings; repair of pest-related building defects; need to identify responsibility for maintenance and repair of sewers and drains; physical control methods; use and legislative requirements of specialist trapping equipment; types of traps; reasons for trapping; consideration of humane aspects of use of traps; frequency of inspection of traps; baiting; reasons for avoiding use of irrecoverable baits; safe handling of live animals; humane despatch of trapped animals.

Chemical control methods: procedure(s) to adopt when undertaking stupefying treatment; appraisal of pesticides; selection of appropriate pesticide and formulation; different modes of action of pesticides on target and non-target species; importance and limitations of LD₅₀ and related data in relation to vertebrate toxicity; safe, effective and humane use of pesticides and formulations; distinction between brand names and common names of active ingredients; situations where pesticide application inappropriate; resistance to pesticides; design, construction, maintenance and selection of application equipment; need for correct application.

Post-Treatment procedures: monitoring of effectiveness of treatment; recovery of unused bait and chemicals; safe recovery and disposal of dead animals; action in the event of resistance or ineffective treatments; re-instatement of site.

Unit 2: Invertebrate Pests

Summary of Outcomes:

To achieve this unit a candidate must:

1. **Review the biology, behaviour and need for control of a range of invertebrate pests, by being able to:**
 - Identify a range of invertebrate pests
 - Relate aspects of the animals' biology and behaviour to their importance as a pest
 - Explain the need to control invertebrate pests

2. **Evaluate the site of an infestation of invertebrate pests, by being able to:**
 - Determine the size and nature of an infestation
 - Recognise structural features that may contribute to an infestation
 - Describe environmental factors that affect an infestation
 - Propose control methods

3. **Outline methods for the control of invertebrate pests, by being able to:**
 - Review non-chemical methods for the control of invertebrate pests
 - Describe chemical control methods for invertebrate pests
 - Explain post-treatment procedures

Content:

1. **Biology of invertebrate pests**

Biology: identification of invertebrate pests; biology and life cycles of these animals relevant to their pest status.

Behaviour: behaviour of these animals relevant to their pest status; environmental requirements for development of infestation; nature, reasons, sources of and evidence for infestation.

Need for control: damage to structures and services; health risks; food spoilage and contamination; nuisance factors; legislative requirements.

2. Evaluation of the site of an infestation

Size and nature of an infestation: survey methods; evidence of infestation; importance of client information, personal observation and past history of the site; source of pests, harbourage sites and distribution pathways; sources of food; pest access

Structural features: building defects and design features associated with infestations; importance of services and ducting; proofing of building; general condition of building and neighbouring properties.

Environmental factors: harbourage sites and sources of food within local environment; features of local environment likely to support an infestation such as communal waste bins, rubbish tips; problems associated with refuse chutes in high-rise buildings and fly-tipping.

Control methods: selection of most appropriate course of action; legislation relating to the course of action and target animal; risk to non-target and protected species; risk assessment of site and proposed course of action; health and safety considerations

3. Control of invertebrate pests

Non-chemical control methods: hierarchy of control methods; elimination of factors conducive to pest infestation such as harbourage and food; environmental management; good housekeeping of premises; proofing of buildings; repair of pest-related building defects; physical control methods.

Chemical control methods: procedure(s) to adopt when undertaking pesticide treatment; appraisal of pesticides; selection of appropriate pesticide and formulation; different modes of action of pesticides on target and non-target species; importance and limitations of LD₅₀ and related data in relation to toxicity; safe and effective use of pesticides and formulations; distinction between brand names and common names of active ingredients; situations where pesticide application inappropriate; resistance to pesticides; design, construction, maintenance and selection of application equipment; need for correct application.

Post-Treatment procedures: monitoring of effectiveness of treatment; recovery of unused bait and chemicals; action in the event of resistance or ineffective control programmes; re-instatement of site.

Unit 3: Health, Safety and Legal Aspects

Summary of Outcomes:

To achieve this unit a candidate must:

1. **Demonstrate appropriate Health and Safety awareness, by being able to:**
 - Outline the importance of Health and Safety to employers and employees
 - Identify a range of hazards relating to pest control and procedures for safe working
2. **Apply relevant legislation to pest control and communicate effectively with clients, by being able to:**
 - Summarise legislation relevant to pest control
 - Use a range of communication skills.
3. **Record relevant information, by being able to:**
 - State the importance of accurate record keeping

Content:

1. Health and Safety

Health and Safety: employers' and employees' duties, responsibilities and obligations relating to Health and Safety at Work Act 1974; welfare provisions of 1974 act; Biocidal Products Regulations 2001 and Biocidal Products (Amendment) Regulations 2003; requirements of COSHH regulations relating to pest control services; use and limitations of personal protective equipment; general requirements of Food and Environmental Protection Act 1985 Part 3 and the Control of Pesticides Regulations 1986; any superseding legislation or amendments to the above.

Hazards and safe working: implications of working in confined spaces, to include lofts, ducting and sewers; safe use of pesticides; implications of working at height, to include steps, ladders and platforms; importance of following safety instructions; risk of exposure to biohazards; fire hazards; accident, incident and "near miss" reporting; required and appropriate safety features of pest control vehicles; design and construction features of pesticide store; labelling of pesticide containers; storage, transport and disposal of chemicals; hazardous waste disposal procedures; avoidance of spillage of hazardous materials; clean up of spillages; what to do in the event of an emergency.

2. **Legislation and Communication with Clients:**

Legislation: legal powers and obligations of local authorities, owners and occupiers with regard to powers of entry, notification, inspection and rodent control under the Prevention of Damage by Pests Act 1949; general requirements of Public Health Acts 1936 and 1961 with respect to disconnection and sealing of disused drains, destruction or removal of vermin and specified urban bird pests; Wildlife and Countryside Act 1981 with regard to protection of flora and fauna, excepted species in Part II Schedule II, permitted methods of control; Food Safety Act 1990; Food Safety (General Food Hygiene) Regulations 1995 with regard to prevention of pest infestations and control of pests in food premises and equipment; general provisions of Animals (Cruel Poisons) Act 1962, Grey Squirrels (Warfarin) Order 1973, Pests Act 1954 and Protection of Animals Act 1911-1927; any superseding legislation or amendments to the above.

Communication with clients: need for clear communication and appropriate responses in difficult situations and with regard to health and safety, to include the importance of effective communication with ethnic minorities and speakers of other languages and awareness of cultural sensibilities; need to report client comments, complaints and suggestions to managers; need to advise clients of pest control measures taken, location of any baits laid and possible future visits to site; need to advise clients of remedial action required with regard to infestations; need to advise clients on housekeeping and maintenance required for prevention of reinfestation; importance of a professional approach to clients; need to suggest alternative remedies in event of objections to specific course of treatment;

3 **Record relevant information**

Record keeping: importance of maintaining accurate records; legal requirements relating to record keeping; records relating to storage, use and disposal of pesticides and the use of other resources, survey data, location and number of traps and baits, visits to traps, risk assessments, servicing of equipment, incidents of malfunction of equipment; customer information records.

Assessment and Grading

Attainment of the Learning Outcomes will be assessed by a synoptic examination of two hours and thirty minutes duration set by The Society. The examination will consist of three sections each consisting of fifteen questions, section 1 will assess the learning outcomes of Unit 1; section 2 will assess the learning outcomes for Unit 2; section 3 will assess the learning outcomes for Unit 3.

The qualification is graded as either *Pass* or *Distinction*.

In order to be awarded a *Distinction*, candidates must, *for all units*, be able to recall relevant knowledge and facts from the entire specification with few significant omissions and demonstrate a high level of understanding of the principles and concepts used in Pest Control. The majority of answers to examination questions will be correct and relevant. Candidates who attain a mark of 80% or greater *in each* of the units will be deemed to have achieved the criteria for a *Distinction*.

In order to be awarded a *Pass*, candidates must, *for all units*, be able to recall relevant knowledge and facts from some parts of the specification and demonstrate a satisfactory level of understanding of the principles and concepts used in Pest Control which would allow the candidate to work safely as a Pest Control Technician. The majority of answers to examination questions will contain some information of relevance. Candidates who attain a mark of 50% or greater *in each* of the units will be deemed to have achieved the criteria for a *Pass*.

Candidates who fail to reach the minimum standard for the *Pass* grade will be recorded as having failed. These candidates will receive a certificate of unit credit which will list any units that have been passed. Candidates that have been unsuccessful in individual units can retake these units, but in order to qualify for the award of the Certificate all units must be successfully taken within one calendar year.

Guidance:

Range of organisms to be studied

The biology, identification and control of the following organisms should be covered during the delivery of this qualification. Some of these species are non-pest species, but should be mentioned due to the possibility of them being mistaken for pests, or of being harmed during control treatments.

Animals which are shown in **bold** type should be considered of greater importance than those shown in normal type, to which only brief reference need be made. Tutors should refer to the ADAS Pest Control Manual for an indication of the depth to which each of the organisms should be studied, but it is important to bear in mind that the relative importance of particular organisms with respect to pest control may change. RSPH Qualifications may update this list if changes in legislation or the importance of a particular organism make this advisable. Tutors will be notified of any amendments to the current species list in advance of any assessment in which any additions to the list may feature.

Mammals	Common Rat (<i>Rattus norvegicus</i>)
	House Mouse (<i>Mus domesticus</i>)
	Grey Squirrel (<i>Sciurus carolinensis</i>)
	Fox (<i>Vulpes vulpes</i>)
	Rabbit (<i>Oryctolagus cuniculus</i>)
	Feral cat (<i>Felis catus</i>)
	Bats (<i>Chiroptera</i>)
	Badger (<i>Meles meles</i>)
	Mink (<i>Mustela vison</i>)
	Mole (<i>Talpa europaea</i>)
	Water vole (<i>Arvicola terrestris</i>)
	Ship rat (<i>Rattus rattus</i>)
	Red squirrel (<i>Tamiasciurus hudsonicus</i>)
	Edible dormouse (<i>Glis glis</i>), otter (<i>Lutra lutra</i>) and deer (<i>Cervidae</i>)
Wood mice (<i>Apodemus sylvaticus</i>), field mice (<i>Apodemus flavicollis</i>), bank vole (<i>Clethrionomys glareolus</i>) and field vole (<i>Microtus agrestis</i>)	

Bats and badgers should be mentioned due to their status as a protected species.

These should be mentioned with respect to relevant legal requirements

These should be covered in sufficient detail to allow the pest control technician to distinguish these animals from rodent pests.

Birds	As defined by the <i>Wildlife and Countryside Act 1981 Schedule 2 Part 2</i> or any superseding legislation or amendments.	
	Gull, Great Black-backed (<i>Larus marinus</i>) Gull, Lesser Black-backed (<i>Larus fuscus</i>) Gull, Herring (<i>Larus argentatus</i>) Pigeon, Feral (<i>Columba livia</i>) Sparrow, House (<i>Passer domesticus</i>) Starling (<i>Sturnus vulgaris</i>) Crow (<i>Corvus corone</i>) Dove, Collared (<i>Streptopelia decaocto</i>) Jackdaw (<i>Corvus monedula</i>) Jay (<i>Garrulus glandarius</i>) Magpie (<i>Pica pica</i>) Rook (<i>Corvus frugilegus</i>) Woodpigeon (<i>Columba palumbus</i>)	
Invertebrates	Stored product invertebrate pests Public health invertebrate pests Nuisance pests	
Bristletails	Silverfish (<i>Lepisma saccharina</i>) Firebrat (<i>Thermobia domestica</i>)	This common pest is often indicative of other problems and should be mentioned in relation to these Although rarer than silverfish this pest is often found in food situations
Springtails	(<i>Collembola</i>)	
Crickets	House cricket (<i>Acheta domesticus</i>)	
Cockroaches	Oriental cockroach (<i>Blatta orientalis</i>) German cockroach (<i>Blattella germanica</i>) American cockroach (<i>Periplanata Americana</i>) Australian cockroach (<i>Periplanata australasiae</i>) Brown-banded cockroach (<i>Supella longipalma</i>)	
Booklice	(<i>Psocoptera</i>)	These should be covered as a group rather than as individual species, they are a significant food pest
Biting lice	(<i>Mallophaga</i>)	These should be mentioned with reference to bird control

Sucking lice	Head louse (<i>Pediculus capitis</i>) Body louse (<i>Pediculus corporis</i>) Crab louse (<i>Phthirus pubis</i>)	
Bugs	Bed bug (<i>Cimex lectularius</i>) Martin bug (<i>Oeciacus hirundinis</i>)	These should be mentioned with reference to identification and their association with house martins and swallows
Moths	Warehouse moth (<i>Ephestia elutella</i>) Common clothes moth (<i>Tineola bisselliella</i>), brown house moth <i>Hofmannophila pseudospretella</i> , white-shouldered house moth (<i>Endrosis sarcitrella</i>), brown tail moth (<i>Euproctis chrysorrhoea</i>), small ermine moth (<i>Yponomeuta</i> spp)	This is a significant stored product insect pest These should be covered as a group in the context of fabric pests which can also be a problem with food.
Beetles	Flour (<i>Tribolium</i> spp), grain (<i>Oryzaephilus surinamensis</i>), biscuit (<i>Stegobium paniceum</i>) and spider beetles (<i>Ptinus</i> spp) Larder beetle (<i>Dermestes</i> spp) Fur beetle (<i>Attagenus pellio</i>) Variegated carpet beetle (<i>Anthrenus verbasci</i>) Furniture beetle (<i>Anobium punctatum</i>) Plaster beetles (<i>Lathridiidae</i>) Fungus beetle (<i>Mycetophagus punctatus</i>) Grain weevil (<i>Sitophilus granarius</i>), Rice weevil (<i>Sitophilus oryzae</i>)	These are best considered as a group in relation to their importance as stored product insects The features which distinguish this from the biscuit beetle should be mentioned The features which distinguish these from each other and from beetles should be mentioned.
Fleas	Cat flea (<i>Ctenocephalides felis</i>) Rodent flea (Bird fleas (<i>Ceratophyllus</i> spp)	

Flies	<p>Common house fly (<i>Musca domestica</i>)</p> <p>Lesser house fly (<i>Fannia canicularis</i>)</p> <p>Blowfly (<i>Calliphora</i> spp)</p> <p>Fruit fly (<i>Drosophila</i> spp)</p> <p>Cluster fly (<i>Pollenia rudis</i>)</p> <p>Mosquitoes (<i>Anopheles</i> spp)</p> <p>Horse flies (<i>Tabanus</i> spp)</p> <p>Sewage flies (<i>Psychoda</i> spp)</p> <p>Phorid fly (<i>Phoridae</i>)</p> <p>Cheese skipper (<i>Piophilidae</i>)</p>	<p>The life cycle should be covered in relation to control measures</p>
Ants, Wasps and Bees	<p>Pharaoh's ant (<i>Monomorium pharaonis</i>)</p> <p>Common black ant (<i>Lasius niger</i>)</p> <p>Rogers ant (<i>Hypoponera punctatissima</i>)</p> <p>Ghost ant (<i>Tapinoma melanocephalum</i>)</p> <p>Social wasps (<i>Vespidae</i>)</p> <p>Bumble Bees (<i>Bombus</i> spp)</p> <p>Honey Bees (<i>Apis mellifera</i>)</p>	<p>A representative species should be covered with reference to behaviour and control</p>
Mites	<p><i>Acarina</i></p>	<p>These should be covered as a group, individual species could be mentioned in the context of newly completed houses and house dust mites with reference to asthma</p>

Recommended Reading:

British Pest Management

British Pest Management Manual

Killgerm, 2001.

Killgerm Operating Manual

Meaney, P 1998.

Insect pests of food premises. National Britannia Ltd.

Sprenger, R.A 1999

Intermediate Food Hygiene. Highfield Publications.

Web-Sites

Barrettine Ltd

www.barrettine.co.uk

British Pest Control Association	www.bpca.org.uk
British Pest Management	www.bpm-org.co.uk
*Health and Safety Executive	www.hse.gov.uk
Killgerm Chemicals Ltd	www.killgerm.com
National Pest Technician's Association	www.npta.org.uk
Pest Control Portal	www.pestcontrolportal.com

* Free Health and Safety leaflets relevant to pest control can be downloaded from this site.

Recommended prior learning:

There are no recommended prior learning requirements for this qualification. The Society does, however, recommend that candidates have a level of literacy and numeracy equivalent to *Level 1* (but see notes on Special Assessment Needs below)

Key Skills:

It is expected that the delivery of this qualification should provide opportunities for the development of the following *key skills*:

Application of Number Level 2
 Communication Level 2
 Information Technology Level 1

Guidelines for key skills are shown in Appendix 1.

Other Issues:

The delivery of this qualification could provide opportunities for contributing to an understanding of Spiritual, Moral, Ethical, Social and Cultural issues and an awareness of Environmental issues, Health and Safety considerations and European developments. Possible areas for discussion are shown below.

Spiritual The qualification can contribute to an understanding of spiritual issues by providing students with an awareness of cultural and religious sensibilities regarding the humane killing of pests.

Moral and Ethical Moral and ethical issues can be developed in a discussion of the legal responsibilities of clients, employees and employers to protect flora and fauna as required by the Wildlife and Countryside Act and by discussing the need for humane treatment of pests.

Social and Cultural Social and cultural issues are explicit in the specification with regard to the need for effective communication with clients.

Health and Health and Safety considerations are explicit in the qualification.

- Safety** For example, the safe use of pesticides, safe working, risk assessment and uses and limitations of personal protective equipment.
- Environment** Awareness of environmental issues can be raised through consideration of how environmental factors may lead to pest infestations, and the importance of the correct disposal of hazardous waste.
- European** The influence of European legislation on UK law can be discussed, for example the Biocidal Products Directive can be discussed with reference to the Biocidal Products Regulations.

Restrictions on Candidate Entry:

Candidates should not enter, with another awarding body, for a Level Two qualification in Pest Control

Special Needs:

Centres that have candidates with special needs should consult The Society's *Regulations and Guidance for Candidates with Special Assessment Needs*, this is available from The Society and The Society's web site (www.rsph.org).

Recommended Qualifications and Experience of Tutors:

The Society would expect that tutors have teaching experience and a qualification in a relevant subject area, but recognises that experienced teachers can often compensate for a lack of initial subject knowledge, or experienced practitioners for a lack of teaching experience. The Society recommends that centres employ a team of tutors with a range of expertise to deliver this qualification.

Suitable qualifications for the Level 2 Certificate in Pest Control include:

- a) Degree or Dip. HE in: Agronomy, Biology, Zoology or related subjects
Environmental Health
Construction
or a related discipline that contains modules in pest control
or a degree that contains elements of these specialisms.
- b) HNC/D in one of the above.
- c) Advanced Certificate in Pest Control awarded by EMFEC and NPTA
Advanced Diploma in Pest Control awarded by NPTA
BPC Diploma Part II awarded by BPCA
- d) NVQ Level 3 in Pest Control.

Centres should be registered with The Society.

Any enquiries about this qualification should be made to:

The Qualifications Department,
Royal Society for Public Health,
3rd Floor Market Towers,
1, Nine Elms Lane,
London,
SW8 5NQ

Tel. 020 3177 1600
Fax. 020 3177 1601
E.mail info@rsph.org.uk

Appendix One: Key Skills Guidelines

This qualification provides a number of opportunities for candidates to develop competence in key skills and to produce evidence towards attainment of key skills. Successful completion of the qualification does not in itself imply attainment of the listed key skills; this is dependent on the candidate producing a portfolio of evidence and the teaching and learning methods adopted by the tutor(s) and candidate in the delivery of the qualification.

The specification content, which provides the most appropriate opportunity for key skill development, is signposted below.

Communication Level 2

Skill	Specification Content
C2.1a Contribute to a discussion about a straightforward subject.	<ul style="list-style-type: none"> Use a range of communication skills (most of the specification will allow candidates to discuss various topics in the field of pest control).
C2.2 Read and summarise information from two extended documents about a straightforward subject. One of the documents should include at least one image.	<ul style="list-style-type: none"> Identify a range of vertebrate pests. Identify a range of invertebrate pests Summarise legislation relevant to pest control.
C2.3 Write two different types of documents about straightforward subjects. One piece of writing should be an extended document and include at least one image.	<ul style="list-style-type: none"> Use a range of communication skills

Application of Number Level 2

Skill	Specification Content
N2.1 Interpret information from two different sources, including material containing a graph	<ul style="list-style-type: none"> Explain the need to control vertebrate pests Explain the need to control invertebrate pests
N2.2 Carry out calculations to do with: a amounts and sizes b scales and proportion	<ul style="list-style-type: none"> Determine the size and nature of an infestation

c handling statistics
d using formulae

- Describe chemical control methods for vertebrate pests
- Describe chemical control methods for invertebrate pests

Information Technology Level 1

Skill

IT1.1 Find, explore and develop information for **two** different purposes.

IT1.2 Present information for **two** different purposes.

Your work must include at least **one** example of text, **one** example of images and **one** example of numbers

Specification Content

Candidates can make use of the internet to obtain information relating to the biology and behaviour of pests and methods for their control.

- Record relevant information
- Candidates can use IT to present information obtained in **IT1.1** above.