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BASIS CERTIFICATE IN CROP PROTECTION SYLLABUS & INFORMATION

The BASIS Certificate in Crop Protection has been established since 1978 to provide training and certification for sellers of agrochemicals and those giving advice on their use.

In 1985 the Food & Environment Protection Act (FEPA) made certification a statutory obligation for pesticide sellers.

“No person shall sell, supply or otherwise market to the end-user a pesticide approved for agricultural use unless he has obtained a certificate of competence recognised by the Ministers, or he sells or supplies that pesticide under the direct supervision of a person who holds such a certificate”

The BASIS certificate in Crop Protection has been approved by Ministers to meet the requirements of Schedule 2 of FEPA for certification for those involved in sale and supply of pesticides.

This booklet is designed to help those involved with training people to meet this standard and provide guidelines to the subject areas which need to be covered to enable them to achieve a satisfactory level of competence.

It is essential that candidates understand the need for a practical approach to training because in order to be successful, individuals must be able to give sound technical advice. Obviously some of the training will be of a theoretical nature but both the syllabus and training programme should be interpreted to provide practical instruction wherever possible.

All staff employed in the field sales of agrochemicals and/or giving advice on their use must, under the Control of Pesticides (Amendment) Regulations 1997, have obtained a Certificate of Competence or exemption from it within three years of entering the Crop Protection industry. New staff to the industry will be allowed a period of three years in which to qualify, during which they will be working under the supervision of a qualified member of staff.

Candidates must have had satisfactory training and supervised field experience before entering for the BASIS examinations. If in doubt as to this requirement, please contact the BASIS office. Candidates who are ill-prepared for the examination obviously represent a waste of time and money to their employer and a waste of time to the examination panel, who give freely of their services. Remember, new entrants to the industry are given up to three years working under supervision before being required to hold the BASIS Certificate in Crop Protection.

Courses are offered for the BASIS Certificate in Crop Protection by the BASIS Approved Trainers listed in this booklet. Courses are run as either day release or in blocks of a week at a time; please contact the trainer of your choice for details.

Over recent years the use of Seed Treatment products has increased markedly. The increase has occurred despite the removal of many of the previously widely used Seed Treatment products. A large number of the withdrawn products were based on mercury which caused concerns for the environment.

Application of crop protection materials via a coating of the seed is considered by many to be the most effective means of accurate, targeted application of pesticides. This method minimises environmental impact and is a safe application method for many materials. Research has been active in this market sector and there has been an expansion in the range of pests controlled by seed protection products with, for example, Aphids, Wheat Bulb Fly and Take-all now included as treatable problems.

Seed Treatment by its nature, seeks prevention rather than cure but the activity level of some of the newer chemistry means that these products should be used in programmes with other post-emergence crop protection products for a more integrated approach to crop protection.

Seed Treatment products are often highly concentrated formulations which need very accurate application to the seed and careful handling in bulk. In consequence, the sale of seed treatment products and advice given for their use is considered to be an important area of qualification for those involved.

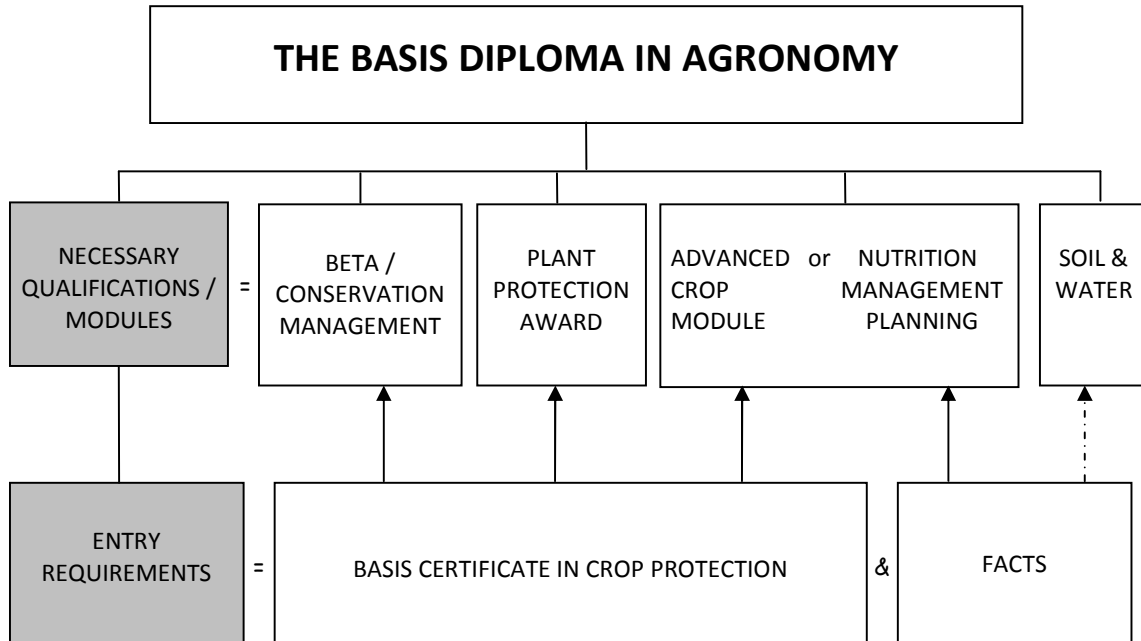
Candidates who pass the examination "Training and Certification for Field, Sales and Technical Staff – Seed Treatment" are recognised by Government Ministers as meeting the requirements of a Certificate of Competence for advisers and sellers of seed treatment products, as identified in the statutory "Code of Practice for suppliers of pesticides to agriculture, horticulture and forestry" (ref. PB3529).

Sellers of seed treatments require a Certificate of Competence under Schedule 2, of the Control of Pesticides (Amendment) Regulations 1997. Ministers also consider it desirable that advisers on seed treatment should be suitably qualified.

Anyone wishing to take the Certificate in Crop Protection – Seed Treatment, should contact the BASIS office training department on 01335 340857 or 01335 340854 or by email to training.courses@basis-reg.co.uk

THE BASIS DIPLOMA IN AGRONOMY

The breadth and scope of knowledge needed for crop protection sales and advice grows every year. New products, new techniques and the way that crop protection fits with other farm and crop management activities all add to the skills needed by those involved in sales and advice for Crop Protection. To cover the range of factors involved, the new BASIS Diploma in Agronomy, as set out below, gives a comprehensive training and qualification framework for those involved in on-farm advice and sales.



TOPICS COVERED

ADVANCED CROP MODULE / ADVANCED NUTRITION MANAGEMENT PLANNING

Weed, Pest & Disease Control, Crop Protection Programmes, Marketing, Food Industries, Crop Assurance, Nutrient Management

BETA / CONSERVATION MANAGEMENT

Environment, Biodiversity, EIS's, CPMP's, ICM, Climate Change

PLANT PROTECTION AWARD (PPA)

Systems & Society, Formulation, Mode of Action, Application, Health & Safety

SOIL & WATER

Cultivation Types and Properties, Cropping Systems, Water Quality, Drainage, Pollution/Waste, Plant Nutrition

For the PPA and the Advanced Crop Module the prior achievement (by examination, exemption or validated certificate) of the BASIS Certificate in Crop Protection is an entry requirement. For the Advanced Nutrient Management Planning Course the prior achievement of the FACTS qualification is required.

Prior qualification of the BASIS Certificate in Crop Protection (or exemption or validated certificate) or the Crop Protection Management or POWER Certificates are required for the BETA examination. In some circumstances, it may be possible for other types of prior qualification to be taken into account for BETA examination eligibility. BASIS Approved Trainers must ensure that in such cases, the prospective candidate is capable of assimilating the knowledge imparted during the BETA course to enable them to pass the BETA examination.

It is **strongly** recommended that candidates should have had at least two years experience of on-farm practical agronomy before attempting any of the modules which contribute towards the BASIS Diploma in Agronomy, but in particular before taking the Plant Protection Award.

BASIS CPD points are available for training and certification in all modules of the BASIS Diploma.

The accreditation process for our qualifications has enabled BASIS to demonstrate a high standard of training and certification for our BASIS courses. The BASIS Diploma comprises a number of modules and 6 are required to complete the qualification.

A further consequence of accreditation by HAUC and the Higher Education qualifications framework has been the development by HAUC of a Graduate Diploma in Agronomy with Environmental Management.

This is a 120 credit graduate level qualification.

BASIS courses have all been awarded a number of credits based on the time spent on the course (Targeted Learning Hours). This is a recognised formula including face to face tuition time, research, reading and experiential learning. The credits are awarded at a level that reflects the intensity / difficulty of the learning materials, for example A-level equivalent or 1st, 2nd or final year honours degree etc.

The qualifying BASIS courses with credits and levels awarded are shown below:

FACTS	
Credit Value	15
Level	Intermediate

SOIL & WATER	
Credit Value	15
Level	Honours

BASIS CROP PROTECTION	
Credit Value	30
Level	Honours

BASIS PLANT PROTECTION AWARD	
Credit Value	15
Level	Honours

BASIS ADVANCED MODULES / NUTRIENT MANAGEMENT PLANNING	
Credit Value	15
Level	Honours

BETA / CONSERVATION MANAGEMENT	
Credit Value	15
Level	Intermediate

Intermediate = 2nd or 3rd year of university degree qualification.

Honours level – final year university degree.

Eg. FACTS 15 credits = 150 hours notional teaching time

The six modules required for the BASIS Diploma add up to 105 credits. In order to qualify for the HAUC Graduate Diploma in Agronomy with Environmental Management, candidates will need to accumulate 120 credits (ie one extra 15 credit module in addition to the BASIS Diploma). This can be any of the Advanced Crop Modules or the new Nutrient Management Planning qualification, available from September 2009.

Further details of the BASIS Diploma in Agronomy can be obtained from the BASIS office or by e-mail to training.courses@basis-reg.co.uk.

EXAMINATION GUIDELINES

Examination Structure

The examination is divided into three sections, all of which must be passed. They are -

- a] multi-choice question paper
- b] practical identification and recommendation
- c] viva

Multi-Choice Question Paper

Questions for the paper have been submitted by the industry and are validated by a Technical Panel. The paper consists of 50 multi-choice questions to be completed within one hour. Four answers are given for each question, and candidates clearly indicate the one they think is correct. Candidates are examined on all seven modules of the BASIS syllabus. These are on pages 11 – 22 of this syllabus booklet. The questions will cover ICM, Application, Legislation, Safety, products and their uses as well as crops, rotations, pests, diseases and other related topics.

Practical Identification and Recommendation

Candidates are required to identify plant diseases, weed seeds, pests, different types of seed treatment and coatings. Candidates are expected to have practical knowledge of the application and storage of seed treatment chemicals as outlined in the modules within the BASIS syllabus and are tested by representatives of the industry. A list of suggested literature for pre-course reading and preparation is enclosed in this booklet.

Viva Panel

The panel will comprise an independent person appointed by BASIS as Chairman, supported by at least one other person from industry who has specialist knowledge of the Seed Treatment sector. The purpose of the viva is to enable the panel to make a final assessment of the candidates' competence and safety when selling seed treatment chemicals and/or making technical decisions relating to seed treatment activities. The candidate's marks from the previous sections are available to the Panel. The interview is carried out in an informal and friendly manner.

General Notes

- Suitable candidates for this training and examination are those who are involved in making technical decisions relating to seed treatment. It is not suitable for seed treatment operators unless they are also involved in technical decision making. The operators' certification is covered by the NPTC / City and Guilds examination (details available from NPTC, tel: 02476 696553).
- Staff involved in giving advice on seed treatments to end-users when selling treated seed should attend the 2-day Seed Sellers course.
- Candidates who fail the examination are able to re-sit on a future occasion.

- The examination panel's decision is final.
- Further information regarding seed varieties and seed treatment products can be obtained from a number of sources. A number of organisations also produce booklets which can be obtained through these and other web site references.

AIC www.agindustries.org.uk

DEFRA www.defra.gov.uk

NIAB www.niab.com

HMSO www.hmso.gov.uk

BAYER www.bayer.com

SYNGENTA www.syngenta.com

YOUR QUESTIONS ANSWERED

- **DO I NEED TO TAKE A TRAINING COURSE IN ORDER TO SIT THE BASIS EXAMINATION?**

Not necessarily, if you feel you already have enough technical knowledge and practical experience. However, candidates should ensure that they have been trained satisfactorily, either in-house or externally, and have had sufficient supervised practical experience prior to the examination, so that they are capable of giving clear, concise recommendations for the use of crop protection products.

- **WHAT FORM DO THE TRAINING COURSES TAKE?**

That will depend on the trainer / training provider, the chosen course and on previous experience to date. Courses can run for up to a total of 5 days.

- **WHERE ARE TRAINING COURSES HELD?**

Please contact the BASIS office for details.

- **HOW DO I APPLY TO TAKE A TRAINING COURSE?**

Contact the Training Provider of your choice and complete a training course application form. Send your application to your chosen training provider.

- **IS IT POSSIBLE TO OBTAIN THE QUALIFICATION THROUGH CORRESPONDENCE OR EVENING CLASSES?**

A distance learning course is available for overseas candidates though not at the moment for those in the UK.

- **WHEN AND WHERE ARE EXAMINATIONS HELD?**

Examinations are held when there are sufficient numbers to make them viable, usually following a training course and at a venue chosen by the training provider.

- **WHAT DOES THE EXAMINATION ENTAIL?**

Details can be found in this booklet on pages 8 - 9.

- **IF I FAIL THE EXAMINATION, CAN I RE-SIT?**

Yes you can re-sit the exam; however, BASIS examinations are accredited on the Higher Education qualifications framework. One consequence of this is that we need to ensure procedures are in place to improve candidates' chances of success in subsequent examinations following a previous failure.

Where candidates have been examined unsuccessfully on two occasions, they will be required to retrain before attempting the exam for a third time.

Candidates and trainers will be required to complete a form to confirm that they have retrained, particularly covering areas that were identified as 'areas of weakness' at previous exams.

The form should be presented to the exam Chairman at the third exam attempt. Failure to confirm that retraining has taken place will result in a refusal to conduct the viva examination and subsequent 'no result' for the exam.

Please help us to help you by asking your training provider to evaluate your training needs and undertake the training required to ensure you can pass the exam.

Those candidates wishing to go forward for the 'BASIS Diploma and later the HAUC Diploma in Agronomy with Environmental Management should be aware that only four attempts at any examination will be permitted if that course is included as a qualification module for the diploma(s).

- **WHAT IF I FAIL ONE PART OF THE EXAMINATION BUT PASS THE OTHER?**

If you fail any part of the written, practical or Panel viva, you must re-sit all parts of the exam again.

- **IF I APPLY FOR A JOB WITHIN THE PESTICIDES INDUSTRY DO I HAVE TO HOLD THE BASIS CERTIFICATE OR HAVE EXEMPTION FROM IT?**

If you have not previously been employed by a distributor you have up to three years from entering the industry in which to become qualified. During that time you must work under the supervision of a certificate holder. Anyone involved in the sale or supply of pesticides must hold the BASIS Certificate of Competence.

- **WHAT IS MEANT BY "WORKING UNDER SUPERVISION"?**

All good trading companies will require their new personnel to have an initial period of training, accompanied by a qualified member of their staff. There will come a time when the company will have to allow the representative to work on his own. Until such time that he/she becomes qualified, all advice given and sales made by the new representative must be monitored by a qualified person who should countersign their sales documentation.

- **HOW DO I APPLY TO SIT THE BASIS EXAMINATION?**

Complete an examination application form and return it to the Training Provider of your choice. You will be notified when an examination is to take place. (Those attending a BASIS training course will automatically be entered for the examination and so do not need to apply separately).

- **WHEN WILL I RECEIVE MY EXAMINATION RESULTS?**

We aim to issue results and feedback within 4 weeks from the date of examination. **Please note results will not be given over the telephone.**

OBJECTIVE SYLLABUS

The syllabus has been designed to allow individual sections of training to be treated as separate units for training purposes. This will permit the choice of the most appropriate time of year in which to undertake such training. Some indication of time required to cover each section of the syllabus is given in the contents page of this booklet. Those concerned with the training will thus be able to assess the depth of teaching required for each subject and establish their training programme accordingly.

The syllabus is prepared for those individuals who are involved in the sale of seed treatment chemicals and/or technical staff who make technical decisions relating to seed treatments and advise on their use in seed treatment plants, whether mobile or static.

MODULE 1 – GROWTH AND DEVELOPMENT OF SEEDS AND COMMERCIAL PRODUCTION

1.1 Competence

To ensure an understanding of the factors which contribute to the development of healthy seed crops.

1.2 Performance Criteria

Candidates must be able to:

- demonstrate a knowledge of the factors contributing to seed quality.

1.3 Essential Knowledge & Skills

Candidates must have the ability to:

- appreciate and explain the process of plant growth and development with special reference to seed formation;
- examine and describe the structure of crop seeds: wheat, barley (2- & 6-row), oats, rye, triticale, oil-seed rape, peas, beans and lupins;
- assess seed sample quality and explain the importance of high quality seed;
- describe practices for providing quality crop seeds and understand the importance of good harvesting and storage conditions;
- understand the legislation, statutory and voluntary, relating to weed seeds;
- examine crop seed samples and identify major weed seed impurities;

- discuss and understand the sources of weed infestation of crops and their control by seed cleaning;
- understand the costs involved in seed production and treatment;
- appreciate and explain UK & EC Legislation and Codes of Practice relating to Seed Batching, Coding, Royalties, Germination and Moisture Content.

MODULE 2 - INTEGRATED CROP MANAGEMENT

2.1 Competence

To ensure an understanding of the concept and importance of Integrated Crop and Farm Management, and a knowledge of their practical application in UK Farming Systems.

2.2 Performance Criteria

Candidates must be able to:

- demonstrate a knowledge of the components of Integrated Crop Management (ICM) and Integrated Farming Systems (IFS) and their contribution to best farming practice.

2.3 Essential Knowledge & Skills

Candidates must have the ability to:

- define ICM.
- understand the importance of ICM.
- identify the components of ICM.
- describe the role of key organisations involved in developing and promoting ICM in the UK.
- recognise the major factors influencing choice of cropping system and rotation.
- understand the principles of economic and environmentally acceptable management of crop nutrition.
- explain the aim and benefits of a planned wildlife and landscape management policy.
- describe practical steps concerning these features which should form part of an ICM plan.
- define, and explain the importance of, both monitoring and auditing.
- explain the importance of producing safe food which meets quality specifications.
- explain the roles of protocols, assurance schemes and legislation in achieving food safety.
- outline practical steps to ensure energy efficiency.

**MODULE 3 - RECOGNITION, BIOLOGY AND CONTROL OF PESTS
AFFECTING CROP SEEDS AND THEIR EARLY STAGES OF GROWTH**

3.1 Competence

To ensure an understanding of the biology and control of seedling pests.

3.2 Performance Criteria

Candidates will be able to:

- recognise those pests affecting crop seeds and seedling plants and methods of controlling the effect of specific pests through seed treatment.

3.3 Essential Knowledge & Skills

Candidates must have the ability to:

- recognise
 - a) insect and eelworm contaminants of harvested seed.
 - b) pests and their damage to stored seed.
 - c) seedling pests and their damage when controllable by seed treatments.
- identify the special features of bird pests.
- understand the reasons for applying pesticides or otherwise treating seeds to control pests.
- understand the mode of action of these chemicals and legislation relevant to them.

MODULE 4 - RECOGNITION, BIOLOGY AND CONTROL OF DISEASES AFFECTING CROP SEEDS AND THEIR EARLY STAGES OF GROWTH

4.1 Competence

To develop an ability to appreciate how crops and crop seeds are affected by diseases and the choice of appropriate seed treatment controls.

4.2 Performance Criteria

Candidates will be able to:

- recognise those diseases which affect crop seeds and seedling plants and the methods for their control with seed treatment products.

4.3 Essential Knowledge & Skills

Candidates must have the ability to:

- identify the main ways in which crops and crop seeds are affected by diseases which are controllable by seed treatments.
- identify the seed-borne diseases and understand their life cycles where appropriate.
- appreciate the importance of storage conditions to seed health.
- examine crop seed samples for disease.
- understand the economic importance of diseases.
- classify the main types of chemical control and understand the principles of methods applicable to the growing crop.
- understand the effects of different seed treatments on the following crop protection disease control measures.

MODULE 5 - COMPOSITION, ACTIVITY AND PERSISTENCE OF CROP SEED PROTECTION CHEMICALS AND BIOLOGICAL AGENTS

5.1 Competence

To develop an understanding of the nature of crop protection chemicals and biological control agents.

5.2 Performance Criteria

Candidates will be able to:

- ensure the correct use of technical terms.
- develop a knowledge and awareness of the composition and formulation of crop protection materials.
- describe the biological activity of important groups of chemicals.
- provide an understanding of factors influencing persistence.
- provide an understanding of the development of tolerance/resistance to certain crop protection materials by target organisms.

5.3 Essential Knowledge & Skills

Candidates must have the ability to:

- explain the use of chemical names, BSI approved common names and proprietary names for crop protection materials.
- classify crop protection materials into functional, chemical and mode of action categories.
- accurately define terms used in relation to chemical and crop treatments.
- explain the significance and limitations of different formulations in relation to application, activity, selectivity, toxicology, persistence and environmental effects.
- explain the importance of compliance with manufacturers instructions for correct dosages and the application of particular formulations.
- outline the mode of action of seed dressings and seed additives by type and function.
- understand the properties of materials which influence their biological activity, selectivity and human toxicity.
- describe the likely influence of weather factors on the effectiveness and behaviour of particular materials.
- describe the influences of soil type on the behaviour of seed treatments.

- recognise the susceptibility of particular varieties of crop plant to phytotoxic damage by certain materials.
- explain the limitations of particular materials.
- explain particular examples of crop damage by chemical treatments.
- appreciate the importance of storage conditions on treated seed.
- explain possible reasons for the ineffectiveness of chemical treatments in particular situations and seasons.
- justify the selection of certain seed treatments for particular situations.
- apply knowledge of factors influencing the behaviour of particular crop protection materials to their possible persistence in the environment and plant produce.
- recognise the significance of approved and recommended use of particular materials in relation to persistence.
- recognise the significance of minimum time intervals between the last application time of particular materials and the harvest of edible crops and seed.
- understand how tolerance/resistance develops in target organisms.
- explain measures for limiting the development of tolerance/resistance.
- recommend alternative materials in situations where tolerance/resistance exists, or is likely to develop.
- give details of alternative strategies of control to overcome problems of tolerance/resistance, and prevent the possible development in target organisms.

MODULE 6 - APPLICATION OF CROP SEED PROTECTION CHEMICALS

6.1 Competence

To develop an understanding of the equipment, techniques and legal requirements for applying seed dressing materials.

6.2 Performance Criteria

Candidates will be able to:

- provide an appreciation of the types, and use, of equipment for seed application.
- develop an appreciation of potential hazards associated with application and encourage safety consciousness.

6.3 Essential Knowledge & Skills

Candidates must have the ability to:

- understand the various types of formulations of seed treatment materials.
- recognise the significance of formulation in relation to the choice of application equipment, and mode of delivery of the material.
- describe the practical limits of the accuracy of placement of particular materials.
- give details of types of application treatment.
- describe equipment utilised for the application of seed treatment materials.
- recognise the nature of seed surfaces and their influence on the degree of retention and distribution of chemicals.
- explain the importance of factors such as droplet size, wetters and oil additives to the retention and distribution of chemicals on seed surfaces.
- understand the various types of seed treatment equipment.
- understand the correct use and maintenance of seed treatment equipment.
- identify major faults.
- identify potential hazards in maintaining application equipment.

- describe safe procedures for the handling of materials and their preparation for application.
- describe procedures for ensuring the safety of operators during the application of crop protection materials.
- recognise safe procedures for protecting the general public and environment from potential hazards during the application of seed treatment materials (mobile seed treatment).

MODULE 7 – SAFE USE, HANDLING, TRANSPORT AND STORAGE OF CROP SEED PROTECTION CHEMICALS

7.1 Competence

To develop an appreciation of the hazards of seed treatment chemicals, to encourage safety consciousness and an awareness of legal obligations.

7.2 Performance Criteria

Candidates will be able to:

- ensure a thorough understanding of the human hazards presented by pesticides and the circumstances in which poisoning may occur.
- develop an awareness of the possible harmful effects of pesticides on the environment and to foster a concern to minimise such effects.
- develop an understanding of possible harmful effects of seed dressings to crops through direct toxicity, the destruction of pest enemies or the development of pesticide resistance.
- understand the obligations and requirements of pesticide legislation and registration schemes.
- develop an awareness of the importance of safe practices and a knowledge of the procedures and precautions that should be adopted.

7.3 Essential Knowledge & Skills

Candidates must have the ability to:

- identify the routes of entry of pesticides into the human body.
- understand the terms oral toxicity, dermal toxicity and LD50.
- identify, from a list of common seed treatment chemicals, those which are most toxic to man.
- identify the application procedures and formulations likely to give rise to the greatest contamination of operatives' clothing, skin and respiratory tract.
- recognise the hazards associated with uncontrolled access to seed treatment operations, materials and stores, especially by children and domesticated animals.
- explain the hazards of transferring pesticides into incorrectly labelled containers.
- explain the possible route of pesticide residues to the consumer.
- identify the factors that affect the level of pesticide residues in food.

- define the terms food chain, food web and ecosystem.
- identify important wildlife refuges in agricultural areas.
- explain the possible effects of seed treatments on bio-diversity.
- explain how seed dressings may affect the population density of wild animals and game through direct toxicity and food chain effects.
- explain how seed dressings may cause pollution of water, damage to aquatic organisms and what can be done to minimise or eliminate these risks.
- explain how crops may be damaged by approved products through incorrect application, dose rates and pesticide mixtures.
- show how pesticides may come in contact with crops not deliberately treated with them.
- explain the circumstances in which pesticide use can lead to increased pest incidence.
- identify the major obligations of employers, employees and the self employed under:
 - a) the Pharmacy and Poisons Act, 1972
 - b) the Health and Safety at Work Act, 1974
 - c) the Control of Pollution Act, 1974
 - d) Control of Substances Hazardous to Health (COSHH) Regulations 2002
 - e) The Food and Environment Protection Act, 1985 (Section 17)
 - f) The Control of Pesticides (Amendment) Regulations 1997
 - g) The Water Resources Act 1991
 - h) BASIS (Registration) Limited
 - i) Ground Water Regulations 1998
 - j) Plant Protection Products Regulations 2003 (including 91/414/EC)
- explain the importance of choosing appropriate seed treatment chemicals, mixtures, formulations and methods of application in reducing risks to people, the environment and the crop.
- describe the precautions to be taken during transport of pesticides.
- describe safe specifications for a pesticide store.
- emphasise the importance of limiting access to crop protection stores and operations.
- relate regulations on protective clothing to choice of chemical, formulation, method of application and the environment in which application will take place.
- demonstrate safety precautions taken during the mixing of pesticides and filling application machinery.
- describe working practices that will minimise contamination of operatives.
- describe safe methods of disposal of unwanted pesticides, protective clothing and empty containers.

- describe decontamination procedures for clothing and skin.
- relate the interval before harvest and access of people and livestock to the risks associated with chemicals of varying persistency and toxicity.
- describe the steps that should be taken if human poisoning is suspected.
- understand the legal obligation concerning consumers under the Food Safety Act, 1990.
- understand the legal obligations concerning the environment included under:
 - a) the Control of Pollution (Amendment) Act, 1989
 - b) the Protection of Animals Act, 1911-1927
 - c) the Protection of Birds Act, 1954-1967
 - d) the Conservation of Wild Creatures and Wild Plants Act, 1975
 - e) the Animals (Cruel Poisons) Act, 1962
 - f) the Countryside and Rights of Way (CROW) Act 2000

FSTS - INCORPORATING ICM

SAMPLE MULTI-CHOICE QUESTIONS FOR THE FSTS EXAMINATION

The following sample questions give a guideline of the type and presentation of questions candidates will have to answer when taking the FSTS examination. They are purely intended as a guide and consist of superseded questions from actual past papers. The multi-choice question paper consists of 45 questions and covers all the areas listed in the attached syllabus.

Which of the following statements about Gamma-HCH, used as a Seed Treatment, is correct

- a) it is a non-persistent insecticide
- b) Gamma-HCH is an organophosphate
- c) Approval for use was revoked in July 1999
- d) it is effective at reducing virus infection by aphids

Which one of the following active ingredients is **not** fungicide?

- a) Fluquinconazole
- b) Flutriafol
- c) Tefluthrin
- d) Thiram

BASIS Certificate in Crop Protection (Seed Treatment)

Must read (have):

- Code of practice for using plant protection products, DEFRA
http://www.pesticides.gov.uk/safe_use.asp?id=64_chris.pidgeon@hse.gsi.gov.uk
- The Encyclopaedia of Cereal Diseases, HGCA Contact HGCA at hgca@cambertown.com or free phone 0845 245 0009
- The UK Pesticide Guide (annually), BCPC <http://www.bcpc.org/shop/UK-Pesticide-Guide-2011.html>
01420 593200
- Yellow Code – Code of Practice for suppliers of pesticides to agriculture, horticulture and forestry

Useful to read (have):

- BBRO/NIAB Recommended list of Sugar Beet varieties
- Crops Magazine or Crops Digital
- Farmers Weekly
- HGCA Grain Storage Guide, 2nd edition (2003)
- HGCA Recommended Lists (annually)
- PGRO Recommended List (annually)
- Product manuals from manufacturers of crop protection products
- Protecting our Water, Soil and Air, DEFRA

Useful websites

- www.basis-reg.com
- www.britishsugar.co.uk
- www.cfeonline.org.uk
- www.defra.gov.uk
- www.hgca.com
- www.niab.co.uk
- www.pelletsarepesticides.co.uk
- www.pesticides.gov.uk
- www.pgro.org
- www.potato.org.uk
- www.rothamsted.bbsrc.ac.uk
- www.voluntaryinitiative.org.uk

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