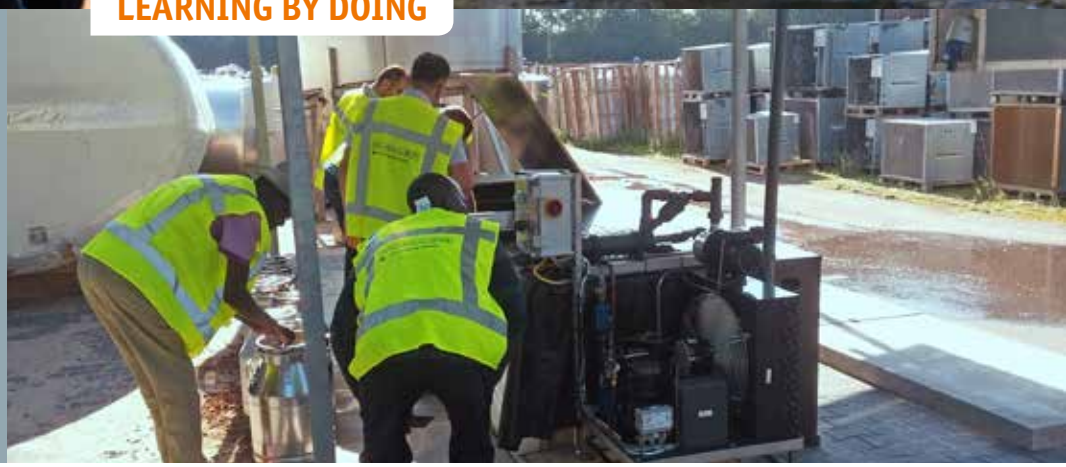
dairy cattle, milk processing, animal feed, pigs, poultry, refrigeration and engineering technology

Mid Career Professional Training Programmes 2017-2018

NETHERLANDS FELLOWSHIP PROGRAMMES

LEARNING BY DOING



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SUSTAINABLE DEVELOPMENT GOALS

PTC+ programme overview 2017-2018

PROGRAMME	TRAINING DATES	Academic application deadline	Online Fellowship application deadline [1]	Location	Page
International diploma pig husbandry	28 August 2017 – 2 March 2018	24 Mar. 2017	30 Mar. 2017	Barneveld	6
International diploma poultry husbandry	28 August 2017 – 2 March 2018	24 Mar. 2017	30 Mar. 2017	Barneveld	7
International diploma pig husbandry & animal feed	28 August 2017 – 1 June 2018	24 Mar. 2017	30 Mar. 2017	Barneveld	8
International diploma poultry husbandry & animal feed	28 August 2017 – 1 June 2018	24 Mar. 2017	30 Mar. 2017	Barneveld	9
Applied pig management	28 August – 24 November 2017	24 Mar. 2017	30 Mar. 2017	Barneveld	10
Applied poultry management	28 August – 24 November 2017	24 Mar. 2017	30 Mar. 2017	Barneveld	11
Poultry farm manager	27 November – 22 December 2017	24 Mar. 2017	30 Mar. 2017	Barneveld	12
Pig farm manager	27 November – 22 December 2017	24 Mar. 2017	30 Mar. 2017	Barneveld	13
Pig breeding & artificial insemination[2]	8 January – 2 February 2018	14 Jul. 2017	25 Jul. 2017	Barneveld	14
Incubation and (broiler) parent stock management[2]	8 January – 2 February 2018	14 Jul. 2017	25 Jul. 2017	Barneveld	15
Pig production technology[2]	5 February – 2 March 2018	14 Jul. 2017	25 Jul. 2017	Barneveld	16
Poultry production technology[2]	5 February – 2 March 2018	14 Jul. 2017	25 Jul. 2017	Barneveld	17
International diploma animal feed	5 March – 1 June 2018	20 Oct. 2017	24 Oct. 2017	Barneveld	18
Product quality & food safety	4 – 29 June 2018	20 Oct. 2017	24 Oct. 2017	Barneveld	19
Training & extension	4 – 29 June 2018	20 Oct. 2017	24 Oct. 2017	Barneveld	20
Agricultural equipment in the food production chain	4 – 29 September 2017	25 Mar. 2016	30 Mar. 2017	Ede	21
Refrigeration for food and renewable green resources	4 – 29 September 2017 5 February – 2 March 2018	24 Mar. 2017 14 Jul. 2017	30 Mar. 2017 25 Jul. 2017	Ede	22
Spraying systems for global safe food production	28 May –22 June 2018	20 Oct. 2017	24 Oct. 2017	Ede	23
Dairy farming and entrepreneurship	4 September – 24 November 2017 5 March – 25 May 2018	24 Mar. 2017 20 Oct. 2017	30 Mar. 2017 24 Oct. 2017	DTC	24
Dairy cattle nutrition, forage production and conservation	4 – 29 September 2017 5 – 30 March 2018	24 Mar. 2017 20 Oct. 2017	30 Mar. 2017 24 Oct. 2017	DTC	26
Breeding, reproduction management, AI and pregnancy diagnosis	2 – 27 October 2017 2 – 26 April 2018	24 Mar. 2017 20 Oct. 2017	30 Mar. 2017 24 Oct. 2017	DTC	27
Dairy farm management, economics and housing of dairy cattle	30 October – 24 November 2017 30 April – 25 May 2018	24 Mar. 2017 20 Oct. 2017	30 Mar. 2017 24 Oct. 2017	DTC	28
Milk processing and entrepreneurship	4 September – 24 November 2017 5 March – 25 May 2018	24 Mar. 2017 20 Oct. 2017	30 Mar. 2017 24 Oct. 2017	DTC	29

[1] You can simultaneously apply for fellowship and admission, however PTC+ can only give online admission if your programme application is complete. ATLAS is open for applications 2 months prior to the online fellowship application deadline.

[2] Deadline for MSP (MENA Scholarship Programme) is 24 March 2017 and 4 April 2017 (fellowship online application).

PTC+, International Training Centre

This brochure focuses on the regular training programmes that PTC+ offers in the framework of the Netherlands Fellowship Programmes (NFP) and the MENA Scholarship Programme (MSP) for short courses. These programmes are available for those people who have obtained a fellowship of the NFP/MSP, as well as for others with alternative financial resources. All programmes are conducted in the English language.

PTC+: Practical Training Centre with a plus

PTC+ is a leading, highly innovative international training centre with several training sites in the Netherlands. The Netherlands, in the heart of Europe, has a knowledge-based economy, particularly where livestock, agricultural and horticultural knowledge is concerned. Its' success may be illustrated by the fact that despite of fact that the Netherlands is the world's second largest exporter of agricultural products, after the USA. An amazing fact if you realize that the Netherlands has a surface area of just some 37.000 km². Of course, this knowledge must be applicable. The Netherlands is prominent in this area, with PTC+ being one of the leaders. PTC+ focuses on all the links in the production chain.

Food security and food safety

The challenges related to food security and food safety are impressive. For instance, in the next 50 years the amount of food to be produced has to be equal to the amount of food that was produced during the last 10,000 years. The current world population growth is very fast, but the animal protein consumption worldwide is growing at nearly twice the speed of the world population growth.

Regular international training programmes: practical and applicable

For more than 40 years PTC+ conducts international training programmes and consultancy alongside the implementation of projects all over the world. Currently, PTC+ a wide variety of regular international training programmes. The programmes have the objective to build the capacity of mid-career professionals of private companies, governmental organisations, non-governmental organisations and other stake-holders in the sectors. Worldwide, but with a focus on developing countries. PTC+ is demand driven and aims at meeting the needs of the participants and their employers. The training programmes are designed in such ways that participants can apply the skills and knowledge gained in a PTC+ training programme immediately when they come home. Together with the participants, PTC+ finds sustainable solutions for companies, organisations and governments that have particular capacity building needs.

The regular international training programmes described in this brochure are linked to the Netherlands Fellowship Programmes / MENA Scholarship Programme.

Tailor-made training programmes

Besides the regular training programmes in this brochure, PTC+ offers many more possibilities and forms of training and other services:

- Regular and 'tailor-made' programmes for the technology intensive, commercial sector, either in the Netherlands and/or at location (abroad).
- Technical and educational consultancy to private companies, governmental- and non-governmental institutions.
- Formulation, implementation and evaluation of projects, training or co-operation programmes.
- Study-tours (either technical-oriented or policymaking-oriented) in the Netherlands or elsewhere.

Combining theory and practice methodologies

PTC+ and its training approach bridge the gap between theory and practice. All programmes, the majority of which are tailor made, are practical oriented. 'Hands-on-training' is an integral part of the programmes. These are the most important PTC+ methodologies:

- Practical training sessions conducted in small groups.
- Special assignments, so that participants are prepared to apply the knowledge and skills they gain in their working environment in their countries of origin: case studies and back home improvement plans.
- Work assignments and demonstrations in real life situations; the green houses, livestock units, processing plants, laboratories, hatchery and feed mill.
- Excursions and apprenticeships.

These methodologies not only contribute to practical skills development, but also to improving intercultural communication skills and presentation and writing skills. Inherent to the PTC+ methodologies is that participants are enabled and encouraged to share experiences and knowledge from their own backgrounds with trainers and participants.

Competence Based Learning

PTC+ focuses on Competence Based Learning (CBL). Within CBL, professional situations serve as a basis for the design of education programmes. PTC+ has always educated participants of trainings in settings that are similar to real professional situations (so-called "rich learning environments" and "authentic learning environments"). PTC+ is an expert in organising work place assignments and has qualified staff to assess the level of students' knowledge, skills and attitude in the learning process and to coach students in their personal and professional development; typical CBL principles. Existing principles are intensified and new principles like the development of competence profiles will be applied in training programmes.

Training sites and facilities

PTC+ operates from several training sites in the Netherlands.

Near these sites, PTC+ can use a wide range of training facilities including commercial dairy, poultry, pig and arable crop farms, greenhouses and open areas for vegetable growing and floriculture, demonstration and instruction halls, laboratories and much more.

Lodging facilities are available for both national and international participants. The PTC+ hostels offer budget accommodation with self-catering facilities.

Trainers and experts

PTC+ employs experienced 'expert trainers', who have several years of (residential) working experience in various countries around the world. All staff-members involved in teaching and supporting foreign participants are fluent in English. Training materials, charts, technical farm results, etc. are available in the English language. The staff is familiar with communicating with persons from different cultures and religions.

Participants and clients

Annually thousands of students and professionals attend PTC+ training programmes. A large number of agricultural schools, colleges and universities in the Netherlands make use of PTC+ to provide practical training to their students. Furthermore, national and international companies from all over the world send groups of professionals for training and retraining to PTC+.

Recognition and quality control

PTC+ is fully and officially recognised by the Netherlands' Ministry of Economic affairs. PTC+ is ISO certified.

Netherlands Fellowship Programmes (NFP)

The NFP is initiated by the Netherlands government and implemented by EP-Nuffic, the Netherlands organization for international cooperation in higher education. The overall aim of the NFP is to help alleviate qualitative and quantitative shortages of skilled manpower, within the framework of sustainable capacity-building directed towards reducing poverty in developing countries. The NFP is focused on meeting the need for further training and capacity building of a wide range of governmental, private and non-governmental organisations. Therefore, the target groups for the NFP training programmes are mid-career professionals who are already in employment and who are nationals of one of the 50 target countries of the NFP.

MENA Scholarship Programme (MSP)

The MSP is initiated by the Netherlands government and implemented by EP-Nuffic, the Netherlands organization for international cooperation in higher education. The MENA Scholarship Programme (MSP) offers around 140 scholarships a year to professionals. The scholarships can be used for selected short courses in the Netherlands. They are distributed proportionally among the participating countries. Ideally, half of the scholarships are allocated to female applicants. The MENA Scholarship Programme aims to contribute to capacity building within a wide range of governmental, non-governmental and private organisations and institutions in ten selected countries, viz. Algeria, Egypt, Iraq, Jordan, Lebanon, Libya, Morocco, Oman, Syria and Tunisia.

What is an NFP or MSP fellowship?
An NFP or MSP fellowship, which is granted for the duration of a training programme, is intended to provide a contribution towards the cost of living, to cover the costs of tuition fees, and the cost of visas, travel, insurance etc. A limited number of fellowships from the NFP/MSP is available for the training programmes of PTC+ mentioned in this brochure.

Requirements and eligibility

Candidates must be nominated by their employers in order to be eligible for an NFP or MSP-fellowship. Detailed information about the NFP and MSP and requirements for admission is available on the website of EP-Nuffic: www.nuffic.nl/nfp.

International diploma pig husbandry

For
Extension officers, teachers and instructors in animal production and managers in the field of pig husbandry.

Target
As a result of the training the participant is able to:
- Manage or supervise or guide pig production from back-yard systems to intensive, inter mediate scale pig farming systems.
- Appreciate the relevance of local pig farmers' knowledge, experience and practices and create awareness of sustainable production concepts and methods.
- Identify, recognise and analyse opportunities and problems, taking into account constraints and utilise possibilities concerning pig husbandry.
- Co-operate with others of various disciplines in planning, designing and implementing projects in the field of pig husbandry.
- Transfer relevant knowledge, skills and technology concepts to small and intermediate scale pig farmers, related clients and suppliers, extension officers and students.

Contents
Compulsory modules, including theoretical and practical subjects related to:
- Farm management economics and marketing aspects.
- Genetics and breeding.
- Health, hygiene and pathology.
- Housing and equipment.
- Management topics.
- Record keeping and production control.
- Nutrition.
- Applied management in the farm facilities of the institute.
- Compilation of several reports and a back home improvement plan.
- Linked to these topics participants develop required competences to return as a confident professional, implementing the PTC+ experience.

This training is composed of the modules:
* Applied pig management (page 10)
* Pig farm manager (page 13)
* Pig breeding and AI (page 14)
* Pig production technology (page 16)

Entry requirements
- A Diploma and/or B.Sc. degree in Agricultural Science with a major in Animal Production, or equivalent qualification from a recognised institute.
- Experience in pig husbandry or closely related subjects.
- Competence in the English language.
- Willingness to perform manual work during the programme.

International diploma poultry husbandry

For
Extension officers, teachers and instructors in animal production and managers in the field of the husbandry of poultry.

Target
As a result of the training the participant is able to:
- Manage, supervise or guide poultry production from semi scavenging systems to intensive, intermediate scale poultry farming methods.
- Appreciate the relevance of local poultry farmers' knowledge, experience and practices and create awareness of sustainable production concepts and methods.
- Identify, recognise and analyse opportunities and problems, taking into account constraints and utilise possibilities concerning poultry husbandry.
- Co-operate with others of various disciplines in planning, designing and implementing projects in the field of poultry husbandry.
- Transfer relevant knowledge, skills and technology concepts to small and intermediate scale poultry farmers, related clients and suppliers, extension officers and students.

Contents
Compulsory modules, including theoretical and practical subjects related to:
- Farm management economics and marketing aspects.
- Genetics and breeding.
- Health, hygiene and pathology.
- Housing and equipment.
- Management topics.
- Nutrition.
- Eggs and hatching process.
- Applied management in the PTC+ farm facilities.
- Compilation of a few reports and a back home improvement plan.
- Linked to these topics participants develop required competences to return as a confident professional, implementing the PTC+ experience.

This training is composed of the modules:
- Applied poultry management (page 11)
- Poultry farm manager (page 12)
- Incubation and (broiler) parent stock management (page 15)
- Poultry production technology (page 17)

Entry requirements
- A Diploma and/or B.Sc. degree in Agricultural Science with a major in Animal Production, or equivalent qualification from a recognised institute.
- Experience in poultry husbandry or closely related subjects.
- Competence in the English language.
- Willingness to perform manual work during the programme.

International diploma pig husbandry and animal feed

For
Extension officers, teachers and instructors in animal production and managers in the field of the husbandry of pigs and compound feed production.

Target
As a result of the training the participant is able to:
- Manage or supervise or guide pig production from back-yard systems to intensive, inter mediate scale pig farming methods.
- Appreciate the relevance of local poultry farmers' knowledge, experience and practices and create awareness of sustainable production concepts and methods.
- Identify, recognise and analyse opportunities and problems, taking into account constraints and utilise possibilities concerning pig husbandry and the use of local feedstuffs.
- Co-operate with others of various disciplines in planning, designing and implementing projects in the field of pig husbandry and animal feed production.
- Transfer relevant knowledge, skills and technology concepts to small and intermediate scale pig farmers and for animal feed producing units.
- Tackle more efficiently the problems with regard to optimum utilisation of locally available feed-stuffs, which are unsuitable for human consumption.
- Tackle more efficiently the problems with regard to optimum utilisation of locally available feedstuffs, which are unsuitable for human consumption.
- Formulate and produce properly processed compound feeds with the desired nutrient levels.
- Develop a plan for the production of compound feed for the situation back home, including the setup of a mill, equipping it, planning the production, formulating the range of feeds to be produced and an estimation of the required investment.

Contents
Compulsory modules, including theoretical and practical subjects related to:
- Farm management economics and marketing aspects.
- Genetics and breeding.
- Health, hygiene and pathology.
- Housing and equipment.
- Management topics.
- Record keeping.
- Nutrition.
- Animal feed.
- Applied management in the farm facilities and feed mill.
- Compilation of several reports and a back home improvement plan.
- Linked to these topics participants develop required competences to return as a confident professional, implementing the PTC+ experience.

This training is composed of the modules:
- Applied pig management (page 10)
- Pig farm manager (page 13)
- Pig breeding and AI (page 14)
- Pig production technology (page 16)
- International diploma animal feed (page 18)

Entry requirements
- A Diploma and/or B.Sc. degree in Agricultural Science with a major in Animal Production, or equivalent qualification from a recognised institute.
- Experience in pig husbandry or closely related subjects and relevant and demonstrable experience in the field of animal nutrition and animal feed production.
- Competence in the English language
- Willingness to perform manual work during the programme and particularly during applied management.

International diploma poultry husbandry and animal feed

For
Extension officers, teachers and instructors in animal production (and for managers) in the field of the husbandry of poultry and compound feed production.

Target
As a result of the training the participant is able to:
- Manage, supervise or guide poultry production from semi scavenging systems to intermediate scale, intensive poultry farming methods.
- Appreciate the relevance of local poultry farmers' knowledge, experience and practices and create awareness of sustainable production concepts and methods.
- Identify, recognise and analyse opportunities and problems, taking into account constraints and utilise possibilities concerning poultry husbandry and the use of local feedstuffs.
- Co-operate with others of various disciplines in planning, designing and implementing projects in the field of poultry husbandry and animal feed production.
- Transfer relevant knowledge, skills and technology concepts to small and intermediate scale poultry farmers and for animal feed producing units.
- Tackle more efficiently the problems with regard to optimum utilisation of locally available feedstuffs, which are unsuitable for human consumption.
- Formulate and produce properly processed compound feeds with the desired nutrient levels.
- Develop a plan for the production of compound feed for the situation back home, including the setup of a mill, equipping it, planning the production, formulating the range of feeds to be produced and an estimation of the required investment.

Contents
Compulsory modules, including theoretical and practical subjects related to:
- Farm management economics and marketing aspects.
- Genetics and breeding.
- Health, hygiene and pathology.
- Housing and equipment.
- Management topics.
- Nutrition.
- Eggs and hatching process.
- Animal feed.
- Applied management in the farm facilities of the institute.
- Compilation of a few reports and a back home improvement plan.

This training is composed of the modules:
- Applied poultry management (page 11)
- Poultry farm manager (page 12)
- Incubation and (broiler) parent stock management (page 15)
- Poultry production technology (page 17)
- International diploma animal feed (page 18)

Entry requirements
- A Diploma and/or B.Sc. degree in Agricultural Science with a major in Animal Production, or equivalent qualification from a recognised institute.
- Experience in poultry husbandry or closely related subjects and relevant and demonstrable experience in the field of animal nutrition and animal feed production.
- Competence in the English language.
- Willingness to perform manual work during the programme.

Applied pig management

For
Extension officers, teachers and instructors in animal production and managers in the field of pig husbandry.

Target
The participant is able to:
- Take care of a pig unit independently. Both the animals as well as their environment are taking care of, in order for the animals to produce under optimal conditions.
- Propose improvements for management back home based on acquired skills and knowledge.

Contents
- Taking care of animals. Result: The animals are in good condition, showing normal behaviour.
- Handling of primary livestock products. Result: The primary products are well handled and stored, showing no deviations caused by handling.
- Taking care of farmhouses and working environment. Result: House and equipment are cleaned and is disinfected if necessary. The infection pressure is at an acceptable level.
- Analyse farm results to propose efficient farm production both technically and economically. Result: The farm production is efficient, both technically and economically.
- Linked to these topics participants develop required competences to return as a confident professional, implementing the PTC+ experience.

Entry requirements
- A Diploma and/or B.Sc. degree in Agricultural Science with a major in Animal Production, or equivalent qualification from a recognised institute.
- Experience in pig husbandry or closely related subjects.
- Competence in the English language.
- Willingness to perform manual work during the programme.

Applied poultry management

For
Extension officers, teachers and instructors in animal production and managers in the field of poultry husbandry.

Target
The participant is able to:
- Take care of a poultry unit independently. Both the animals as well as their environment are taking care of, in order for the animals to produce under optimal conditions.
- Propose improvements for management back home based on acquired skills and knowledge.

Contents
- Taking care of animals. Result: The animals are in good condition, showing normal behaviour.
- Handling of primary livestock products. Result: The primary products are well handled and stored, showing no deviations caused by handling.
- Taking care of farmhouses and working environment. Result: House and equipment are cleaned and is disinfected if necessary. The infection pressure is at an acceptable level.
- Analyse farm results to propose efficient farm production both technically and economically. Result: The farm production is efficient, both technically and economically.
- Linked to these topics participants develop required competences to return as a confident professional, implementing the PTC+ experience.

Entry requirements
- A Diploma and/or B.Sc. degree in Agricultural Science with a major in Animal Production, or equivalent qualification from a recognised institute.
- Experience in poultry husbandry or closely related subjects.
- Competence in the English language.
- Willingness to perform manual work during the programme.

Poultry farm manager

For
Managers in the field of poultry production, extension officers, teachers and instructors on poultry production.

Target
The participant is able to:
- Indicate vital factors of successful poultry development
- Make a production planning to meet a certain market demand at farm and integration level
- Calculate cost price, farm-income and profit
- Analyse a poultry enterprise on technical and economic performance
- Make an investment planning for expansion incl. plan for financing (develop a “business plan”).
- Develop a strategy for marketing of the poultry products (“marketing plan”)
- Design and implement health control and biosecurity in order to minimise risks at acceptable costs and efforts

Contents
- Orienting on market possibilities and developments. Results: The entrepreneur applies information of the market and on developments.
- Making a business plan. Results: The entrepreneur can decide on the development of the business and use a business plan for that.
- Linked to these topics participants develop required competences to return as a confident professional, implementing the PTC⁺ experience.

Entry requirements
- A Diploma and/or B.Sc. degree in Agricultural Science with a major in Animal Production, or
- Equivalent qualification from a recognised institute.
- Experience in poultry husbandry or closely related.
- Competence in the English language.

Pig farm manager

For
Managers in the field of pig production, extension officers, teachers and instructors on pig production.

Target
The participant is able to:
- Indicate vital factors of successful pig production development
- Make a production planning to meet a certain market demand at farm and integration level
- Calculate cost price, farm-income and profit
- Analyse a pig enterprise on technical and economic performance
- Make an investment planning for expansion incl. plan for financing (a business-plan)
- Develop a strategy for marketing of the final product
- Design and implement health control and bio-security in order to minimise risks at acceptable costs and effort

Contents
- Orienting on market possibilities and developments. Results: The entrepreneur applies information of the market and on developments.
- Making a business plan. Results: The entrepreneur can decide on the development of the business and use a business plan for that.
- Linked to these topics participants develop required competences to return as a confident professional, implementing the PTC+ experience.

Entry requirements
- A Diploma and/or B.Sc. degree in Agricultural Science with a major in Animal Production, or
- Equivalent qualification from a recognised institute.
- Experience in pig husbandry or closely related.
- Competence in the English language.

Pig breeding and artificial insemination

For
Extension officers, teachers and instructors in animal production and for managers in the field of pig husbandry.

Target
The participant is able to:
- Propose and plan methods to improve the genetic make-up of a pig husbandry herd.
- Practice in the selection of new breeding stock.
- Execute AI on farm level, including semen collection and semen processing.
- Assess the right moment of insemination.

Contents
- Collection and preparation of semen. Result: Semen is correctly collected, judged and prepared for insemination.
- Heat detection, moment of insemination and insemination. Result: Heat is detected and insemination is performed adequately and on the right moment.
- Pregnancy detection. Result: Sows are controlled on pregnancy, with or without a pregnancy tester.
- Breeding strategy. Result: A breeding plan is prepared for a local situation

Entry requirements
- A Diploma and/or B.Sc. degree in Agricultural Science with a major in Animal Production, or
- equivalent qualification from a recognised institute.
- Experience in pig husbandry or closely related subjects.
- Competence in the English language.
- Willingness to perform manual work during the programme.

Incubation and (broiler) parent stock management

For
Managers in the field of incubation and poultry breeding and for extension officers, teachers and instructors on poultry.

Target
The participant is able to
- Describe the critical aspects of incubation leading to a high hatchability and good quality chicks.
- Describe the relation between breeder management and hatching results
- Assess break-out and chick quality to improve hatching results
- Calculate required hatchery capacity and prepare a suitable lay-out

Contents
- Management broiler parent stock
- Nutrition broiler parent stock
- Recording
- Embryology and hatching, including pertinent practises, climate, hatch assessments
- Hatchery planning
- Economics
- Excursions to leading hatcheries

Entry requirements
- A Diploma and/or B.Sc. degree in Agricultural Science with a major in Animal Production, or equivalent qualification from a recognised institute.
- Experience in poultry husbandry or closely related.
- Competence in the English language.
- Willingness to perform manual work during the programme.

Pig production technology

For
Managers in the field of pig production, for extension officers, teachers and instructors on pig production.

Target
The participant is able to:
- to analyse the existing situation and recognize the necessity and possibilities to introduce systems with advanced technology.
- to find an optimum balance in new advanced systems and the existing systems.
- To search after- and contact with related suppliers on pig husbandry equipment in their own country.
- To prepare an implementation plan, including economic and possible social aspects

Contents
- Building constructions
- Housing systems sows, boars, piglets, weaners, fatteners, gilts
- Feeding and drinking systems
- Farrowing pens
- Insulation of building
- Climate standards
- Ventilation capacity
- Ventilation systems
- Heating and cooling systems
- Climate control equipment

Entry requirements
- A Diploma and/or B.Sc. degree in Agricultural Science with a major in Animal Production, or equivalent qualification from a recognised institute.
- Experience in pig husbandry or closely related subjects.
- Competence in the English language.
- Willingness to perform manual work during the programme.

Poultry production technology

For
Managers in the field of poultry production, for extension officers, teachers and instructors on poultry production.

Target
The participant is able to:
- to analyse the existing situation and recognize the necessity and possibilities to introduce systems with advanced technology.
- to find an optimum balance in new advanced systems and the existing systems.
- To search after- and contact with related suppliers on poultry husbandry equipment in their own country.
- To prepare an implementation plan, including economic and possible social aspects

Contents
- Building constructions
- Housing systems layers, pullets, broilers and parent stock
- Feeding and drinking systems
- Egg collection systems
- Insulation of building
- Climate standards
- Ventilation capacity
- Ventilation systems
- Heating and cooling systems
- Climate control equipment

Entry requirements
- A Diploma and/or B.Sc. degree in Agricultural Science with a major in Animal Production, or equivalent qualification from a recognised institute.
- Experience in poultry husbandry or closely related subjects.
- Competence in the English language.
- Willingness to perform manual work during the programme.

International diploma animal feed

For
Professionals engaged in feed processing activities and closely related fields.

Target
The participant is able to:
- Formulate and produce properly processed compound feeds with the desired nutrient levels.
- Develop a plan for the production of compound feed for the situation back home, including the setup of a mill, equipping it, planning the production, formulating the range of feeds to be produced and an estimation of the required investment.

Contents
- Taking care of production. Result: A well-balanced feed can be produced for a specific category of livestock.
- Handling of inputs and products. Result: The inputs and products are well handled and stored, showing no deviations caused by handling.
- Taking care of feed production unit and working environment. Result: The production unit and environment are 'clean' and suitable for use. The risk for contamination is at an acceptable level.
- Assessing results. Result: The production of the feed in the feed production unit is efficient, both technically and economically.
- Orienting on market possibilities and developments. Result: Local conditions and local available materials, equipment and methods are recognised, described and implemented.
- Making a business plan. Result: A well-motivated business plan for starting or renewing a feed production unit.
- Dealing with feed production unit staff. Result: Feed production unit staff adequately performs their tasks.
- Assessing quality and safety deviations. Result: The feed recipes and the feed itself are of good quality, not influencing animal and consumer health in a negative way.
- Communicating to feed production workers/ managers
- Advising on prevention of product deviations
- Linked to these topics participants develop required competences to return as a confident professional, implementing the PTC⁺ experience.

Entry requirements
- A Diploma and/or B.Sc. degree in Agricultural Science with a major in Animal Production, or equivalent qualification from a recognised institute.
- Experience in animal husbandry or closely related subjects and relevant and demonstrable experience in the field of animal nutrition and animal feed production.
- Competence in the English language.
- Willingness to perform manual work during the programme and particularly in the PTC⁺ feed-mill.

Product quality and food safety

For
- Extension officers, teachers and instructors in animal production.
- Policy makers and other stakeholders in the food chain

Target
The participant is able to:
- Explain the concept of quality assurance programmes, analyse the present home situation and make a proposal for a new approach towards a food safety programme.
- Assess the relationship between production method and meat quality & process poultry under good hygienic conditions personal as well as environmental.
- Add value to a poultry and pig carcass by portioning & know the methods of conservation and preservation of meat.
- Do an Ante Mortem check during the production phase& recognize major carcass abnormalities and reasons of carcass rejects.

Contents
- Assessing quality and safety deviations. Result: Policy makers, customers and consumers are aware of risks of non-hygienically produced and contaminated meat products.
- Communicating to farm workers/managers and stakeholders. Result: Awareness of producing and selling of safe meat products is of major importance nowadays.
- Advising on prevention of product deviations. Result: It is important to monitor all processes from 'pork to fork' and explain the concept of quality assurance programs and design a quality assurance program for local use.
- Linked to these topics participants develop required competences to return as a confident professional, implementing the PTC+ experience.

Entry requirements
- A Diploma and/or B.Sc. degree in Agricultural Science with a major in Animal Production, or equivalent qualification from a recognised institute.
- Experience in livestock production or closely related subjects.
- Competence in the English language.

Training and extension

For
Extension workers, researchers, agricultural policy makers and teachers with the need to identify and exchange information and skills with their target groups.

Target
The participant is able to:
- Explain the relevance and opportunities of agricultural extension for agricultural development.
- Apply participatory extension planning approaches and techniques to develop and implement extension plans in close cooperation between farmers and extension workers.
- Develop, arrange an outline for and evaluate a short training programme.
- Prepare and conduct a practical class.

Contents
- Developing a training programme. Result: Considering target group, training needs, objectives, content, timing and budget, an appropriate training programme is developed.
- Carrying out a training program. Result: Based on a good lesson plan, on suitable locations with appropriate teaching aids, an effective training program is conducted. There is a good contact with the group and participant feel they acquire essential knowledge and skills.
- Evaluate a training program. Result: An effective evaluation has been prepared and executed, because of which the outcomes of the training program are indicated and justified.
- Transferring knowledge and skills. Result: A clear analysis is made of the knowledge and skills that have to be transferred to the target group.
- Organising extension and training activities. Result: The identification of needs of the target group is translated into an outline of an extension plan to overcome identified farming constraints.
- Make a well-motivated improvement plan. Result: The identification and analysis of farming problems as well as the creation of possible solutions lead to a practical extension plan that is well documented, organised and presented.
- Linked to these topics participants develop required competences to return as a confident professional, implementing the PTC+ experience.

Entry requirements
- A Diploma and/or B.Sc. degree in Agricultural Science or equivalent qualification from a recognised institute.
- Experience in livestock and/or agriculture or closely related subjects.
- Competence in the English language.

Agricultural equipment in the food production chain

For
Owners, managers and assistant managers, trainers, teachers, mechanical sales managers, mechanics in the maintenance and repair of agricultural equipment

Target
- To upgrade the managerial skills in the use of agricultural equipment
- To upgrade the skills with aim to minimize fuel costs in the chain
- How to create added value in a modern service company
- Upgrading managerial and technical skills in the major aspects of modern agricultural equipment
- Contribution to a better work performance and achieving better business results to maintenance, repair and selling in equipment used in agriculture
- Optimal use of new agricultural equipment under local conditions

Contents
- Basic principles in electronic, hydraulic
- Basic principles of gearboxes and transmissions
- New principles on the new generation tractors
- Maintenance of engines and machinery, equipment
- Harvesting machinery basic
- Refrigeration and storage of products
- Develop a maintenance plan
- Make a well motivated improvement plan
- Sales technique, the costumer is the king
- Competences will lead to a certificate
- Excursions to agricultural equipment companies

Entry requirements
- A Diploma and /or B.Sc. degree
- At least three years experience in closely related subjects
- Competence in the English language
- Willingness to perform work during the programme

Refrigeration for food and renewable green resources

For
Engineers, owners, managers and assistant managers, trainers, teachers in selling and training in maintenance and repair of refrigeration equipment, renewable green recources for water systems and the use of solar energy

Target
- To upgrade the managerial skills in the use of refrigeration equipment
- How to create added value in a modern service company
- To upgrade the skills for green energy and minimize the costs of fuel and electricity in the chain
- Upgrading managerial and technical skills in major aspects of modern equipment
- Contribution to a better work performance and achieving better business results to maintenance, repair and selling in equipment used in the green refrigeration
  industry
- Optimal use of new refrigeration equipment under local
  conditions
- Water supply systems with use of green renewable energy
- Solar power as a clean energy and a green image

Contents
- Basic skills refrigeration installations
- Cooling and storage of products
- Measuring and control engineering in air conditioning installations
- Electrotechnics for refrigeration mechanics
- Expert installation of air conditioning and cryogenic installations in the right manner
- New principles in a sustainable future
- Solar energy as power supply
- Maintenance of refrigeration equipment, water supply systems and solar systems
- Develop a maintenance plan
- Make a well motivated improvement plan based on a situation back home
- Sales technique, the customer is king
- Competences will lead to a certificate
- Excursions to refrigeration/cold store/ water & solar engery companies

Entry requirements
- A Diploma and /or B.Sc. degree
- At least three years experience in related subjects
- Competence in the English language
- Willingness to perform work during the programme

Spraying systems for global safe food production

For
Owners, managers and assistant managers of agricultural companies, extension officers and quality control managers with basic experience in spraying systems.

Target
- The ability to work out an spray protection program for their home situation paid to the environment.
- Experience in scouting and monitoring to assess the development phases of pest and diseases.
- Considered strategic aspects of spray protection practices at agricultural enterprises and its effect in the consumer chain and food security/safety.
- Practical experience with spraying systems in agricultural crops.
- Upgrading managerial/technical skills in the major aspects related to modern crop protection.

Contents
- Concept and rationale behind Integrated Pest Management.
- Safety depends on you. Protection of the operator and the environment.
- Planning and implementing crop protection activities.
- Selection-criteria and application of spraying equipment to be used by small and large agricultural companies.
- Compilation of spraying systems: pump, nozzles, droplet-formation techniques, air-support.
- Reducing the negative environmental impacts of crop spraying and working on a safe food production.
- Residue reduction in harvested produce for safe food production.
- Knowing and recognizing beneficial and predator insects.
- Scouting and monitoring before spraying.
- Developing a spray protection plan.
- Excursions to agricultural growers and suppliers of spraying equipment.
- Maintenance of spraying equipment.
- Examination of crop spraying equipment, content and execution.
- Competences will lead to a certificate.

Entry requirements
- A Diploma and/or B.Sc. degree in Agricultural Science with a major in Plant Production, or equivalent qualification from a recognised institute.
- At least three years experience in agricultural production or closely related subjects.
- Competence in the English language.
- Willingness to perform practical work during the programme.

Dairy farming and entrepreneurship

For

Owners and managerial staff of private-, public-, or co-operative dairy farms; staff of dairy training institu¬tes; extension workers and staff of advisory services dealing with all management aspects of dairy farms.

Target

At the end of the Course participants are able to:

- Work out forage production plans and prepare silage
- Work out rations and feed dairy cows
- Rear calves and young stock
- Develop breeding plans, detect heat, perform AI and PD and record information
- Design cow barns
- Milk cows in different milking parlours/ work with automatic milking systems
- Calculate gross margin, farm income and cash flow and make budgets for dairy farms
- Analyse technical and financial performance of dairy farms and make plans for improvement
- Develop business plans for setting up new dairy farms

Contents

Module 1: Dairy cattle nutrition, forage production and conservation

- Based on soil analysis and projected land use work out soil fertilization plans including the use of manure, compost and chemical fertilizer; Plan land use, record the actual usage and evaluate production levels.
- Developing a grazing management plan
- Making of silage, assessing silage storage systems, assessing silage quality, interpretation of feeding value analysis reports of silage and other roughages and feeds
- Optimizing rumen fermentation, and prevention of metabolic disorders
- Systems for reducing “green house gas” emissions (CH4) in dairy cattle nutrition
- Assessing roughage supplies and calculate whether supplies are sufficient to cover a cold/ dry season
- Based on production levels, roughage supplies and qualities calculate and optimize rations for the various lactation stages of dairy cows
- Calf and young stock feeding aiming for concrete daily growth targets
- Feeding systems, TMR
- Systems for monitoring feeding management

Module 2: Breeding, reproduction management, AI and pregnancy diagnosis

- Assessment of dairy cow breeds of importance in dairy farming, their advantages and dis-advantages
- “Traits” of dairy cows which are of importance in commercial dairy farming, their heritability and potential for improvement
- Judging conformation of cows, analysis of level of conformation on dairy farms and which kind of bulls are required to improve the conformation and production level

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- Analysis of breeding bull catalogues, selection of breeding bulls
- Designing a breeding plan for commercial dairy farms including cross breeding strategies
- Using "genomics" in selection of breeding bulls and breeding animals on the farm
- Key performance indicators for assessment of quality of dairy cow herds/ breeding management
- Fertility management on dairy farms
- Heat detection, use of sensors in heat detection
- Key performance indicators for assessment of fertility levels on dairy farms
- Artificial insemination theory and practice
- Pregnancy diagnosis theory and practice (various methods)
- Maintaining breeding and fertility records, calculation of key performance indicators

Module 3: Dairy farm management, economics and housing of dairy cattle

- Explanation on what it means to be a manager and an entrepreneur
- Criteria for setting up a sustainable dairy farm and obtaining a "public license" to produce
- Key performance indicators to assess the financial and technical performance of dairy farms and bench mark these using local and international standards
- Calculation of variable and fixed costs, gross margins and farm income
- Maintaining financial records
- Making of a cash flow forecast
- Calculation of a balance sheet
- Making of a partial budget in case of investments in existing dairy farms
- Making of a complete budget for setting up a new dairy farm and assess its feasibility
- Interpretation of technical and financial reports of dairy farms
- Assessment of the technical and financial performance of an existing dairy farm and prepare a plan for improving technical and financial performance
- Housing requirements for dairy cows in different climatic zones
- Reduction of green house gas emissions in dairy farms
- Designing of a dairy farm, making of a budget for construction and calculation of annual (fixed) costs
- Use of sensor technology in dairy farming ("smart farming")
- Mechanization and automation in dairy farming, improving labor productivity in dairy farms

Entry requirements

- Diploma/ B.Sc. Degree in Animal Production or Certificate with minimum 3 years practical experience in dairy farming.
- Experience in dairy farming or closely related subjects
- Competence in the English Language
- Willingness to perform practical work during the program

Dairy cattle nutrition, forage production and conservation

For
Owners and managerial staff of private-, public-, or co-operative dairy farms; staff of dairy training institu¬tes; extension workers and staff of advisory services dealing with all management aspects of dairy farms.

Target
At the end of the Course participants are able to:
- Work out forage production plans and prepare silage
- Work out rations and feed dairy cows
- Rear calves and young stock

Contents
- Based on soil analysis and projected land use work out soil fertilization plans including the use of manure, compost and chemical fertilizer; Plan land use, record the actual usage and evaluate production levels.
- Developing a grazing management plan
- Making of silage, assessing silage storage systems, assessing silage quality, interpretation of feeding value analysis reports of silage and other roughages and feeds
- Optimizing rumen fermentation, and prevention of metabolic disorders
- Systems for reducing “green house gas” emissions (CH4) in dairy cattle nutrition
- Assessing roughage supplies and calculate whether supplies are sufficient to cover a cold/ dry season
- Based on production levels, roughage supplies and qualities calculate and optimize rations for the various lactation stages of dairy cows
- Calf and young stock feeding aiming for concrete daily growth targets
- Feeding systems, TMR
- Systems for monitoring feeding management

Entry requirements
- Diploma/ B.Sc. Degree in Animal Production or Certificate with minimum 3 years practical experience in dairy farming.
- Experience in dairy farming or closely related subjects
- Competence in the English Language
- Willingness to perform practical work during the program

Breeding, reproduction management, AI and pregnancy diagnosis

For

Owners and managerial staff of private-, public-, or co-operative dairy farms; staff of dairy training institu¬tes; extension workers and staff of advisory services dealing with all management aspects of dairy farms.

Target

At the end of the Course participants are able to:

- Judge conformation of dairy cows
- Select bulls from breeding bull catalogues
- Develop (cross-) breeding plans
- Detect heat/ perform AI and PD and record information

Contents

- Assessment of dairy cow breeds of importance in dairy farming, their advantages and dis-advantages
- "Traits" of dairy cows which are of importance in commercial dairy farming, their heritability and potential for improvement
- Judging conformation of cows, analysis of level of conformation on dairy farms and which kind of bulls are required to improve the conformation and production level
- Analysis of breeding bull catalogues, selection of breeding bulls
- Designing a breeding plan for commercial dairy farms including cross breeding strategies
- Using "genomics" in selection of breeding bulls and breeding animals on the farm
- Key performance indicators for assessment of quality of dairy cow herds/ breeding management
- Fertility management on dairy farms
- Heat detection, use of sensors in heat detection
- Key performance indicators for assessment of fertility levels on dairy farms
- Artificial insemination theory and practice
- Pregnancy diagnosis theory and practice (various methods)
- Maintaining breeding and fertility records, calculation of key performance indicators

Entry requirements

- Diploma/ B.Sc. Degree in Animal Production or Certificate with minimum 3 years practical experience in dairy farming.
- Experience in dairy farming or closely related subjects
- Competence in the English Language
- Willingness to perform practical work during the program

Dairy farm management, economics and housing of dairy cattle

For

Owners and managerial staff of private-, public-, or co-operative dairy farms; staff of dairy training institutes; extension workers and staff of advisory services dealing with all management aspects of dairy farms.

Target

At the end of the Course participants are able to:

- Calculate gross margin, farm income and cash flow and make budgets for dairy farms
- Analyse technical and financial performance of dairy farms and make plans for improvement
- Develop business plans for setting up new dairy farms
- Design cow barns
- Milk cows in different milking parlours/ work with automatic milking systems

Contents

- Explanation on what it means to be a manager and an entrepreneur
- Criteria for setting up a sustainable dairy farm and obtaining a "public license" to produce
- Key performance indicators to assess the financial and technical performance of dairy farms and bench mark these using local and international standards
- Calculation of variable and fixed costs, gross margins and farm income
- Maintaining financial records
- Making of a cash flow forecast
- Calculation of a balance sheet
- Making of a partial budget in case of investments in existing dairy farms
- Making of a complete budget for setting up a new dairy farm and assess its feasibility
- Interpretation of technical and financial reports of dairy farms
- Assessment of the technical and financial performance of an existing dairy farm and prepare a plan for improving technical and financial performance
- Housing requirements for dairy cows in different climatic zones
- Reduction of green house gas emissions in dairy farms
- Designing of a dairy farm, making of a budget for construction and calculation of annual (fixed) costs
- Use of sensor technology in dairy farming ("smart farming")
- Mechanization and automation in dairy farming, improving labor productivity in dairy farms

Entry requirements

- Diploma/ B.Sc. Degree in Animal Production or Certificate with minimum 3 years practical experience in dairy farming.
- Experience in dairy farming or closely related subjects
- Competence in the English Language
- Willingness to perform practical work during the program

Milk processing and entrepreneurship

Milk Processing consists of transferring raw milk into high quality dairy products which have extended shelf life, are safe to consume and comply with (inter)national standards. Entrepreneurship is the key factor in a sustainable dairy value addition business!

Contents

To add value to raw milk processing technologies will be applied to come to marketable, consumable, delicious and healthy dairy products. Techniques of preservation, quality control analyses, marketing and organisation will be trained. Product groups are: pasteurised milk, fermented milk, yoghurts, butter and ghee, different types of cheeses (fresh to semi-hard), ice cream and sweet porridges.
For a sustainable milk processing business investments in a plant with equipment are inescapable, but running it profitable decisions need to be made regularly based on correct financial calculations, risk management, organisation and communication.

What will you gain

- Process raw milk into high quality and safe dairy products, by operating different processing equipment, using adequate additives and executing microbiological- and chemical quality tests on raw milk and dairy products
- integrate a marketing concept into the dairy business and to develop and present an innovative dairy product based on a market research
- manage a small scale dairy plant with a sustainable economic result
- adapt new attitude, knowledge and skills to enhance their working performance in the dairy business.

Teaching method in all modules:

You will be taught by experienced and qualified staff. Theory and practice are combined to create a variable and challenging environment.
DTC will make use of the DTC dairy farms and Milk Processing plant to make the transition to the practical components in the course. Participants can make use of the E-Learning platform. Different assignments have to be made by the participants. Furthermore excursions will be organised.

Entry requirements

- Certificate level with minimum 3 years practical experience in the dairy sector.
- Competence in the English Language, both written and oral.
- Willingness to perform practical work during the program