UNIVERSITEIT GENT

Studiefiche

Academiejaar 2020-2021 t.e.m. 2021-2022

Animal Nutrition (I002653)

Wegens Covid19 kan mogelijk afgeweken worden van de onderwijs- en evaluatievormen. Dergelijke afwijkingen zullen via Ufora worden gecommuniceerd.

Cursusomvang *(nominale waarden; effectieve waarden kunnen verschillen per opleiding)*

Studiepunten 5.0	**Studietijd 150 u**	**Contacturen**	50.0u

Aanbodsessies in academiejaar 2021-2022

A (semester 2)	(geen onderwijstaal opgegeven)	Gent

Lesgevers in academiejaar 2021-2022

Fievez, Veerle	LA22	Verantwoordelijk lesgever
Michiels, Joris	LA22	Medelesgever

Aangeboden in onderstaande opleidingen in 2021-2022	**stptn**	**aanbodsessie**
Master of Science in de bio-ingenieurswetenschappen: landbouwkunde	5	A
Uitwisselingsprogramma bio-ingenieurswetenschappen: Food Science and Nutrition (niveau master-na-bachelor)	5	A
Uitwisselingsprogramma bio-ingenieurswetenschappen: landbouwkunde (niveau master-na-bachelor)	5	A

Onderwijstalen

Engels

Trefwoorden

Ruminant nutrition, pig nutrition, feed evaluation, requirements, diet formulation

Situering

This course deals with ruminant, pig and poultry nutrition. In a first part, the course describes feeding standards in relation to the physiological processes (maintenance, labour, growth, lactation, pregnancy) from which feeding systems for the different classes of farm animals are derived. In a second part, emphasis is put on specific requirements and nutritional disorders in relation to the physiological (weaning, growth, early lactation, breeding, egg production) and metabolic status of the animal. Feed resources and their characteristics are discussed. Feed technology is introduced. Sustainability dilemas related to feed resources and animal nutrition are interactively discussed.

Inhoud

1. Energy and protein evluation systems: beef & dairy, pigs, laying hens & broilers
2. Feed resources
2.1. Feed ingredients: chemical & nutritional characteristics, hazardous substances
2.2. Feed additives
2.3. Feed technology
3. Tailoring animal nutrition in relation to the animal's physiological status
3.1. Lactating animals (dairy cattle & sows)
3.2. Weanling piglets
3.3. Laying hens & broilers
4. Nutritional prevention of metabolic, nutritional and immunological disorders
5. Integrated diet formulation
5.1. Diet formulaton (including stock management of roughages, linear programming)
5.2. Formulating sustainable and functional diets
5.3. Integrating biomarker and sensor data in diet formulation

Begincompetenties

Animal Nutrition bouwt verder op bepaalde eindcompetenties van

opleidingsonderdeel Animal Physiology; of de eindcompetenties werden op een andere manier verworven.

Eindcompetenties

1 Having profound knowledge in determination of nutrient content and evaluation.
2 Animal species specific requirements and their integration in energy and protein evaluation systems are known.
3 Formulation of diets based on requirements according to the production stage and level.
4 Application of linear programming to formulate diets.
5 Critically evaluate current feed evaluation systems and new developments.
6 Profound insight in the origin of metabolic disorders and the functions of non-nutritive feed additives.
7 Relate nutritional composition to animal responses and vice versa.
8 Relate nutrition to emissions towards the environment, animal health and animal welfare.

Creditcontractvoorwaarde

Toelating tot dit opleidingsonderdeel via creditcontract is mogelijk na gunstige beoordeling van de competenties

Examencontractvoorwaarde

Dit opleidingsonderdeel kan niet via examencontract gevolgd worden

Didactische werkvormen

Practicum, Begeleide zelfstudie, Excursie, Hoorcollege, Werkcollege: geleide oefeningen, Integratieseminarie, Werkcollege: pc-klasoefeningen

Toelichtingen bij de didactische werkvormen

Theory: oral lectures ('hoorcollege')
Feedstuff characteristics: personal collection of data for dairy cattle, gestating & lactating sows, piglets, broilers & laying hens ('begeleide zelfstudie') + discussion sessions & feedback on personally collected data
Exercises: practical exercise in relation to feed evaluation, calculations in relation to energy and protein evaluation system & diet formulation (personal preparation ('zelfstandig werk') - preparation of the exercises + discussion sessions ('geleide oefeningen')), practical on farm evaluation of nutrition and production characteristics, pilot compound feed installation & premix company (excursions), compound feed formulation based on linear programming ('PC-klasoefeningen'), interactive discussion on sustainable diets with stakeholders

Leermateriaal

Course material is available. Geraamde totaalprijs: 20 EUR
Optional excursion to feed design lab (additional costs - to be determined)

Referenties

cfr. extensive list of references in the course material

Vakinhoudelijke studiebegeleiding

During the contact hours, the different topics are discussed under supervision of the lecturer. Exercises are prepared by the students based on guidelines provided by the lecturer.

Evaluatiemomenten

periodegebonden en niet-periodegebonden evaluatie

Evaluatievormen bij periodegebonden evaluatie in de eerste examenperiode

Mondeling examen, Schriftelijk examen met open vragen

Evaluatievormen bij periodegebonden evaluatie in de tweede examenperiode

Mondeling examen, Schriftelijk examen met open vragen

Evaluatievormen bij niet-periodegebonden evaluatie

Verslag, Participatie, Mondeling examen

Tweede examenkans in geval van niet-periodegebonden evaluatie

Examen in de tweede examenperiode is enkel mogelijk in gewijzigde vorm

Toelichtingen bij de evaluatievormen

Theory: period aligned evaluation

Exercises: non-period aligned evaluation

Possibility for period aligned evaluation of exercises (agreement between lecturer and student).

Exercises: assessment of cooperation and interaction during exercises and excercise preparation reports

Eindscoreberekening

8/20 - non-period aligned evaluation
12/20 - period aligned evaluation