

List of current thesis topics Business Economics

January 2016

Oude Lansink

1. Analysis of mergers and acquisitions in the agribusiness – what are the benefits of mergers and acquisitions
2. New financing facilities for cooperatives. How can cooperatives finance their activities. Why do they choose certain ways of financing. What is the value of certificates and shares in cooperatives?
3. Analysis of the technical and economic efficiency of agribusiness firms. What is the technical and economic performance of agribusiness firms?; Analysis of the economic performance of agribusiness firms using production frontiers.
4. Financial ratios of the agribusiness using a world wide data base of firms (ORBIS). For example comparison of solvency, liquidity, activity for the ten largest dairy processing companies (e.g FrieslandCampina, ARLA, Fonterra).
5. Measuring the financial risks in agribusiness firms using ORBIS (beta of the company).
6. Comparing the financial risks and economic performance of investor owned firms and cooperatives using ORBIS.
7. Analysis of companies that were or are facing financial problems (e.g. VION, Greenery).
8. Measuring the value of shares of Dutch cooperatives using the CAPM model.
9. Assessing the relation between investments and financial ratios
10. De berekening van financiële ratio's in de land- en tuinbouw en in de voedingsmiddelenindustrie. (BSc)

Meuwissen

1. Effect of catastrophic events and geopolitical risks on the performance of agribusiness companies using ORBIS [BEC]
2. Comparing risk performance of sustainable versus non-sustainable business using ORBIS [BEC, in cooperation with banks]
3. The role of investment funds (private equity) in agriculture [BEC, in cooperation with Rabobank (Friesland)]
4. Impact of finance on price and production volatility in Indonesian horticulture [BEC]

5. Impact of finance on chain stability in Indonesian horticulture [BEC]
6. Quantifying the resilience of farms and agribusiness [RABOBANK]
7. Financieringswijzer voor agrarische ondernemers. Wanneer is welke financiersvorm interessant voor een ondernemer. [with LEI and LIBA Belgium]
8. The opportunities of group-based financing and insurance in aquaculture [BEC, in cooperation with Inclusive Finance Platform NPM]

Rao

1. Analysis of farm-level use of inputs and outputs, and technical and economic efficiency using production frontiers.
2. Decision-making regarding technology adoption and evaluation of the effectiveness.
3. Production risk on farm level and risk strategies such as diversification.
4. Evaluating the effectiveness of agri-business firms' investments, especially those related to R&D (i.e., research and development).
5. Evaluating agricultural policies in developing countries, especially policies related to agricultural production and income.

de Mey

1. Risk balancing behaviour in Belgian agriculture: comparing objective versus subjective evidence (collaboration with ILVO in Belgium, based on a farm household survey combined with highly detailed accounting data)
2. Analysing the (economic) link between the farm and the farm household for European family farms
3. Diverse sources of risk and diversified risk management portfolios in agriculture: a comprehensive assessment
4. Econometric analysis of risk in agriculture

Berentsen/Sok/Hogeveen; accountancy and advise agencies

- Accon/AVM (accountancy/extension service)
- Flynth (accountancy/extension service); Flynth wil de dienstverlening in de varkenshouderij vernieuwen. Enkele elementen van hun plan:
 - Analyse van bestaande producten en van daaruit voorstellen maken voor verbetering; bijvoorbeeld, kengetallen en kwartaalrapport.
 - Meer aandacht voor opbrengstprijzen van vleesvarkens; analyse van het systeem van uitbetaling door de belangrijkste slachterijen waaraan klanten van Flynth leveren (bijv. Westfleisch, Vion etc)
 - Ontwerp van doorlopende dienstverlening middels Portal, dashboards etc.

- **DMS advies (Hogeveen)**

- Is er een relatie tussen hogere droge stofopbrengsten vanuit de kringloopwijzer en voerkosten / saldo?
- Wat is een gezonde financiering? Hoever kan een ondernemer zich laten financieren zonder dreiging?
- Is er een relatie tussen duurzaamheid veestapel (gemiddelde levensproductie per koe op bedrijf) en antibiotica gebruik?
- Welk ondernemerstype heeft grootste kans op succes na april 2015?
- Is er een relatie tussen genetische aanleg veestapel en technische resultaten/ omgevingsfactoren of ondernemerstype?

Berentsen

1. Economics of phosphorus feeding in Dairy farming

In the manure legislation after the dairy quota abolition, excretion of phosphate by animals is crucial. In this project the focus is on minimizing phosphorus input to animals. What are feeds with low phosphorus content and what are the costs of such feeds? What role can these feeds play in feeding cows and what are the economic consequences? A dairy farm optimization model will be used to simulate the dairy farm. Some knowledge of animal nutrition is required.

2. Economics of conservation of farm animal genetic diversity.

Conservation of farm animal genetic diversity (in gene bank collections) is important. Up till now most of this conservation is done on a national basis, but initiatives are coming up to deal with this at a higher level. Questions concern the economically optimal scale of such gene banks, and on the number of breeds that will be conserved. Some general knowledge of animal breeding is required. This research is done in cooperation with the Centre for Genetic Resources, the Netherlands and with Biodiversity International, Rome. Part of the project will be carried out in Rome.

3. Fighting Chicken Mytes. Impact on economic performance; in cooperation with Johan van Riel

Saatkamp

Highly contagious livestock diseases

- 1.** The impact of changes in poultry production structure on the impact of HPAI (Highly Pathogenic Avian Influenza) outbreaks (geen specifiek project, interesse vanuit EZ)
- 2.** Export-market analysis of Dutch commodities: various species and commodities possible, e.g. cattle, pigs or poultry, eggs, meat, animals, etc.
- 3.** Cost-effectiveness and –efficiency analysis of surveillance against various infectious diseases (e.g. BlueTongueVirus, Classical Swine Fever, Aujeszky's Disease, ...)
- 4.** The impact of mitigation of movement restrictions during a contagious livestock disease outbreak on numbers of animals, animal welfare and costs (interesse vanuit sector EZ)
- 5.** The impact of various above-legal zoning measures (e.g. large buffer zones) during a contagious livestock disease outbreak on numbers of animals, animal welfare and costs (interesse vanuit sector en EZ)
- 6.** The impact of FMD outbreaks on milk collection, processing and valorisation in Germany (a pilot study) (interesse vanuit Duitsland)

Antibiotics

- 7.** Economic aspects of emergence, surveillance and reduction of anti-biotic resistance in livestock production (various topics possible, e.g. literature review, pilot calculation, etc) (Effort project)
- 8.** The relation between antibiotic usage and animal health, welfare and production performance in broiler and/or hog production (Helmut Saatkamp).
- 9.** The potential impact of emergence of antibiotic resistance on animal health, welfare and production performance in broiler and/or hog production (Helmut Saatkamp).
- 10.** Monitoring of antibiotic resistance in broiler and/or pig production chains: technical and economic aspects (Helmut Saatkamp).

Financial and Business management

- 11.** De financiering van Nederlandse landbouwbedrijven:
 - Overzicht van de globale financiering van Nederlandse landbouwbedrijven
 - Verandering van financieringsstructuur: welke factoren zijn hierbij van belang
 - De relatie tussen financieringsstructuur en ondernemingsvorm
- 12.** Analyse van nationale en internationale commodity-stromen met betrekking tot de Nederlandse varkenshouderij
- 13.** Analyse van nationale en internationale commodity-stromen met betrekking tot de Nederlandse melkveehouderij
- 14.** Analyse van nationale en internationale commodity-stromen met betrekking tot de Nederlandse pluimveehouderij
- 15.** Bij ForFarmers, mengvoederbedrijf (vroeger Nutreco/Hendrix). Analyse van biggenvitaliteitscheck in relatie tot technisch-economische terugkoppeling naar de klant (o.a. interne en externe bedrijfsvergelijking)

Education

16. Animal Health Economics: ontwikkeling van een onderwijsmodel met de 3 stages: Excel en @Risk, onderlinge links maar ook afzonderlijk bruikbaar.....

Mourits

1. **Cost-effectiveness of measures to reduce the likelihood of plant pest invasions into Europe.** A side effect of the increasing international trade is that organisms associated with the imported plant products are introduced in new areas. The introduction of plant organisms to new areas is of big concern since they may have detrimental effects on the production of agricultural crops and the biodiversity in natural habitats. The aim of the European commission is to minimize invasions with unnecessary restrictions to global trade. To minimize the probability of invasion all kinds of risk reduction options (RRO) are possible (e.g. intensified inspection, treatment of lots, decreasing transporting temperatures etc). It is not known to what extent these measures are most cost-effective. As a MSc-student you will add to this model by collecting data on trade-flows, costs of RROs with the aim to add the cost-benefit perspective to this model. A substantial part of the project is devoted to data collection (on trade flows and cost of measures), model development and model analysis. The challenge in this project is to find estimates for effectiveness of risk reduction options .
 2. Community-acquired (food-related) outbreaks and the associated investigation costs
 3. Financieringsrisico's bij bedrijfsonderbrekingen; Large livestock farms are heavily financed and highly specialised, making them more vulnerable to disruptions in production (dioxin detection/ contagious animal disease control). How vulnerable?
 4. Cost-effectiveness evaluations of mass vaccination campaigns/public health programs; how to apply in practise?
 5. Technisch-economische evaluatie diergezondheidsprogramma's GD (Annet Velthuis)
1. [FrieslandCampina Amersfoort: map certification schemes in new logistics context](#)
 2. [Hallen en Stallen Isolatie B.V., Veendam of Amersfoort: rendement isolatie agrarische sector](#)

Hogeveen

1. **Economische resultaten duurzame melkveebedrijven**

Duurzaamheid van melkveebedrijven wordt steeds belangrijker. De overheid kijkt hiernaar omdat in 2015 de melkquotering wordt afgeschaft. Duurzaamheid kan op verschillende manieren worden uitgedrukt (via BEX, of via een stikstofefficiëntie getal, of en daar zal het in de toekomst waarschijnlijk heengaan, via de kringloopwijzer). De vraag is nu of duurzame bedrijven (duurzaam met betrekking tot de omgeving) nu ook economisch duurzamer zijn, of is duurzaamheid (in de enge definitie) iets wat alleen maar geld kost.

Deze onderwerpen gaan of in op de economie van een beperkt aantal bedrijven waarover veel informatie beschikbaar is (via het Koeien en Kansen project) of kijkt naar wat generiekere gegevens die beschikbaar zijn van een groot aantal bedrijven.

Ism Livestock Research

2. Economie reproductie melkvee

Nu het melkquotum eraf gaat is een hoge melkproductie per koe belangrijk. Onlangs is een complex simulatiemodel ontwikkeld dat de economische effecten van veranderingen in reproductie kan analyseren. Dit model is echter weinig praktisch. Doel van dit afstudeervak is het ombouwen van het simulatiemodel naar een snellere omgeving en hiermee de schade van verminderde reproductie op een aantal melkveebedrijven door te rekenen. Computer skills zijn bij dit onderwerp wel vereist.

3. Economische optimalisatie droogzetten

Onlangs is door een student een optimalisatiemodel (mbv lineaire programmering) gebouwd om het gebruik van droogzet antibiotica te optimaliseren. Dit model is redelijk specifiek gemaakt voor de economische evaluatie van data die door de GD zijn verzameld. Om er een praktische tool van te maken moet het model gegeneraliseerd worden. Dat is de taak in dit afstudeervak. Verder uitbouwen van een bestaand model.

Ism CRV

4. Economic effects of a novel immune stimulating treatment in dairy cattle

Ism. Elanco Animal Health

Metabolic disorders, such as ketosis have a negative effect on production of dairy cattle. Moreover, they are a risk factor for other health problems. A novel preventive measure is soon becoming available. The economic effects of the application of this novel immuno stimulating treatment are not known and will be studied in this topic.

5. Determinants of economic consequences of foot and mouth disease in South East Asia and Africa

This research consists of a systematic literature study to determine the elements that make up the economic losses of foot and mouth disease in countries where foot and mouth disease is endemic.

In co-operation with the Royal Veterinary College (London), very suitable for an internship

6. Economic effect of subclinical ketosis

We have data of a large number of dairy cattle where we know the ketosis situation as well as the milk production and reproduction of dairy cattle. Using these data you have to estimate the production effects of subclinical ketosis and value this in monetary terms.

7. Kosten van dierziektes op Drentse melkveebedrijven.

Een grote dierenartsenpraktijk in Klijndijk (Arts & Dier http://www.artsendier.nl/hst/a13r09t/arts_dier.nsf/Main/Runderen?open) heeft een eigen spreadsheet rekenprogramma gemaakt om kosten van dierziektes op de door hen begeleide melkveebedrijven te kunnen schatten. Inmiddels zijn er 3 modules gemaakt: uiergezondheid, vruchtbaarheid en klauwgezondheid. Een module voor stofwisselingsaandoeningen moet nog gemaakt worden. Hiermee

loopt deze dierenartsenpraktijk voorop in het toepassen van economie in de ondersteuning van melkveebedrijven. Rondom dit programma zijn twee onderwerpen voor een afstudeerscriptie mogelijk:

1. Ontwikkeling van een module over stofwisselingsaandoeningen. Het werk bestaat uit literatuuronderzoek over de gevolgen van diverse stofwisselingsaandoeningen (zoals melkziekte, lebmaagdislocatie etc.) en de samenhang tussen deze aandoeningen. Gesprekken met experts om de samenhang beter te begrijpen en het opzetten van rekenregels om de kosten van de verschillende aandoeningen te berekenen
2. Inschatten van de kosten van dierziektes op melkveebedrijven. Data van individuele melkveebedrijven worden ingevoerd in het rekenprogramma om de kosten van de dierziektes over de tijd te berekenen. Vervolgens kan geanalyseerd worden hoe de kosten van dierziektes samenhangen met de bedrijfsvoering.

8. Costs of lameness - Lely

Ine van der Fels

- 1. Optimize monitoring for mycotoxins on the country level.** The aim of this topic is to optimize the governmental monitoring program for mycotoxins in cereal derived foods. The work will start ranking of the mycotoxins for their health impact, and second to develop a monitoring program for the most relevant mycotoxins. The ranking of mycotoxins will be done with using a method for ranking of food safety risks, or to develop one, and to perform the risk ranking of mycotoxins in cereal derived food products. Second, an optimal monitoring program will be developed for these toxins.
- 2. Study into the awareness of growers of maize and small grain cereals in the Netherlands on fungal infection and mycotoxin production,** and knowledge on Good Agricultural Practices, and differences in risk perception of farmers and related farm management practices. Based on the study findings, recommendations will be given on improving awareness and GAP for mycotoxin control, considering the risk attitude. The study will include literature review, questionnaires with farmers and spreadsheet model calculations. A particular focus will be laid on the use of fungicides during critical periods of crop cultivation, or not. Methods include set up of interviews, having interviews with growers, and analysing results using agent based modelling or principal agent modelling.
- 3. Estimate the effectiveness of various measures for fungal infection and mycotoxin control in the entire cereal production chain.** This study will identify the critical control points (CCP) within the chain, possible measures that can be taken at each CCP, and the cost-effectiveness of the different measures per CCP, and over the entire chain. The study will include a literature review, questionnaires/interviews with different actors within the chain, and establishing a spreadsheet model for the cost calculations.
- 4. Cost-effective sampling and analyses of large batches for mycotoxin contamination.** Mycotoxin contamination is often inhomogenous distributed within (large) batches of cereals. Current EC regulations prescribe the number of samples that should be taken from the batch. These samples need then to be combined, and the pooled sample needs to be analysed with very sensitive

methods (HPLC) for mycotoxin presences. An alternative approach could be to analyse the large number of samples with quick ELLISA methods. These methods have lower sensitivity and specitivity, but also lower prices. In this thesis, a model will be developed for comparing the cost-effectiveness of different approaches for sampling and analyses of large (boat) batches for mycotoxin presence. It will include a.o. costs of the methods, characteristics of the methods, such as sensitivity and specitivity, and threshold or legal levels.

5. Comparative analyses of the performance of dipsticks for gluten in food (labwork), and evaluation of Human Health Impact (DALY approach) for celiac disease, possible in combination with other allergies.

6. Rearing insects for production of feed or food. When will it be economically feasible?