



Veterinærinstituttet
Norwegian Veterinary Institute

DTU



UNIVERSITY OF
LIVERPOOL



Universiteit Utrecht

Dianova

Food Safety & Animal Insight

istworld



Universidade do Minho



CReSA^R

Centre de Recerca en Sanitat Animal



Annual Meeting 2012
Copenhagen 24-25 April

Agenda

- 10.30 – 12.10 **WP Committee Meetings**
- 12.10 – 13.30 **Lunch**
- 12.30 – 13.15 Meeting of the **Executive Board**
- 12.30 – 13.30 Meeting of the **Advisory Board**
- 13.30 – 14.00 **General Assembly (incl. summary from AB)**
- 14.00 – 14.10 Any other business
- 14.10 End of meeting

WP1 Committee Meeting

- Tom Humphrey, ULIV
- Other participants
 - All except DIA, CVI-LEI, UMinho

Task 1.1

Risk factors for Camp. colonization in broilers

- Task leader: Birgitte Borck Høg, DTU
- Participants: NVI, ULIV, UU, CSA, NVRI

No	Deliverable	Status	Due
1.1.1	Questionnaire and protocol for data collection agreed with all participants	✓	
1.1.2	Report on broiler production across Europe (based on questionnaire)	✓	
1.1.3	Research publication of risk factors for flock colonization including climatic conditions	—	Apr13

✓ = delivered, ▶ = started, — = not started

Task 1.1

Risk factors for Camp. colonization in broilers

- Activities and results so far
 - Report from the questionnaire survey among broiler producers in six European countries now on the CamCon website
 - All farms have been recruited in the UK, Spain and Poland, and retrospective data being extracted in Denmark and Norway
- Activities next project year
 - Articles to be written on the questionnaire results and submitted to World Poultry and national poultry magazines
- Problems
 - Delay in recruitment of farms in the Netherlands
- Points for discussion and decision
 - None

Task 1.2

A longit. study of broiler flocks in UK and Spain

- Task leader: Tom Humphrey, ULIV
- Participants: UNEW, CS

No	Deliverable	Status	Due
1.2.1	Study protocol finalised	√	
1.2.2	Data analysis of first-year intensive flock sampling in Spain and the UK	—	Jun12
1.2.3	Paper on two-year study in UK and Spain	—	Feb14
1.2.4	Identification of management intervention to minimize risk of colonization of broiler flocks	—	Feb14

√ = delivered, ► = started, — = not started

Task 1.2

A longit. study of broiler flocks in UK and Spain

- Activities and results so far
 - All farms recruited in the UK and Spain
 - UK
 - ✓ 4-7 flocks have now been sampled on each of 8 farms
 - ✓ Boot sock sampling is now done on a daily basis, till a flock is confirmed positive and has found a number of flocks going positive early in the flock cycle
 - ✓ Enumeration data is being carried out for these farms at slaughter as part of task 1.1
 - Spain
 - ✓ 4- 6 flocks have now been sampled on each of the 5 farms
 - ✓ A comparison of sampling methods was undertaken and showed no difference between cloacal swabs and caecal sampling

Task 1.2

A longit. study of broiler flocks in UK and Spain

- Activities next project year
 - Continued sampling for a further year
- Problems
 - No problems
- Points for discussion and decision
 - None

Task 1.3

Importance of flies in transmission of *Campylobacter* to broiler flocks

- Task leader: Birthe Hald, DTU
- Participants: UNEW, ULIV, CSA

No	Deliverable	Status	Due
1.3.1	First-year report on flies	▶	Apr12
1.3.2	Paper on the role of insects in colonization of broilers with <i>Campylobacter</i> in UK and Spain	—	Apr14

√= delivered, ▶= started, —= not started

Task 1.3

Importance of flies in transmission of *Campylobacter* to broiler flocks

- Activities and results so far
 - Flies were live captured on farms in the UK (n=4) and Spain (n=5).
 - UK: 2/909 flies were positive for *C. lari* (*Calliphora vomitoria*) and *C. coli* (*Heleomyzidae*)
 - Spain: 6/486 flies were positive; 5 for *C. jejuni* and 1 for *C. coli* (*Musca domestica*)
- Activities next project year
 - Sample flies three times (UK) and two times (Spain) during a crop rotation in Summer 2012
 - Different strategy to be adopted in the UK (very high diversity of flies on broiler farms), requires more targeted sampling of fly populations

Task 1.3

Importance of flies in transmission of *Campylobacter* to broiler flocks

- Problems
 - Community analysis could not be done in the UK, as side vents were not opened on the 4 farms
 - Problems with desiccation of flies from capture nets on Spanish farms

- Points for discussion and decision
 - Are responsibilities in subtask 1.3.2 (taxonomical sorting) according to Annex 1 or should it be altered ?

Task 1.4

Distribution of *Campylobacter* subtypes in EU broiler production

- Task leader: Frieda Jorgensen, Nicola Williams, ULIV
- Participants: NVI, DTU, UU, CSA, NVRI

No	Deliverable	Status	Due
1.4.1	Paper on Campylobacter sub-types in EU broiler production	—	Apr14

√= delivered, ►= started, —= not started

Task 1.4

Distribution of *Campylobacter* subtypes in EU broiler production

- Activities and results so far
 - A total of 307 isolates have been received by ULIV; 102 from Poland, 31 from Spain and 174 from Norway
 - The majority have been subject to PCR and sequencing
- Activities next project year
 - Sequences will be analysed and assigned to ST's
 - MLST will be performed on remaining isolates
 - Literature review on MLST on poultry isolates is underway
- Problems
 - MLST and analysis will continue following Yvette (ULIV) returning from maternity leave in Jan 2013
 - All remaining isolates must be received by the.
- Points for discussion and decision
 - Should the remaining isolates come from Poland and Spain?

Task 1.5

Modelling in-house colon. of birds in relation to environment and bird welfare

- Task leader: Steven Rushton, UNEW
- Participants: ULIV

No	Deliverable	Status	Due
1.5.1	Quantitative assessment of the relative significance of risk factors in the study countries	—	Aug13
1.5.2	A pathway model which defines the interactions between risk factors leading to colonization	—	Oct13

√= delivered, ▶= started, —= not started

Task 1.5

Modelling in-house colon. of birds in relation to environment and bird welfare

- Activities and results so far
 - Collate data into suitable format for modelling from participant worksheets and data bases
 - Develop Mixed Effect models to investigate impacts of risk factors in determining Campylobacter colonisation
 - Use data to parameterise Structural Equation Model of pathways to risk
- Activities next project year
 - First batch of data to be received April and analysis can then start
- Problems
 - No problems
- Points for discussion and decision
 - None

WP2 Committee Meeting

- Jaap Wagenaar, UU
- Other participants: all except NVI, DIA, UNEW, NVRI

Task 2.1

Fly screens add-on to biosecurity

- Task leader: Birthe Hald, DTU-VET
- Participants: DTU-FOOD, ULIV, CSA

No	Deliverable	Status	Due
2.1.1	List of study farms and control farms to be visited selected from list of Task 1.1	✓	
2.1.2	List of farms consenting to participate	(✓)	
2.1.3	Report for each study farm to approve biosecurity level and plan for mounting of fly screens	▶	Jun11
2.1.4	Fly screens delivered on farms	▶	Jul11
2.1.5	Logbooks filled in and collected	—	Jul13
2.1.6	Database with Campylobacter results of farms in T2.1	—	Aug13
2.1.7	Paper on the effect of fly control in UK and Spain	—	Des13

✓ = delivered, ▶ = started, — = not started

Task 2.1

Fly screens add-on to biosecurity

- Activities and results so far UK
 - Visits to UK Jan 2011
 - Seminar in DK for the UK party March 2011
 - Meeting with the UK Party in Northern Ireland June 2011
 - Preparation to establish a fly screen demo farm in UK – however this task was instead agreed to be transferred into the Defra project to give added value to both projects
 - Report of flow tests/netting material obtained at SKOV A/S, a DK ventilation company
 - Work undertaken with a Cooperation Agreement between CamCon and the Defra Project to merge CamCon task 2.1 with Defra's fly screen activities to give added value to both projects
 - Detection method for boot swabs harmonized between ULIV and DTU-FOOD to secure comparability of work in U_LIV and DTU's laboratories

Task 2.1

Fly screens add-on to biosecurity

- **Activities and results so far Spain**
 - Visits to Spain Febr 2011
 - Preparation for a demo farm in Catalunya (not finalized)
 - CRESA discussions with Spanish broiler companies (incl. meeting Jan 2012)
 - Meeting in Barcelona between DIANOVA and the Spanish partners concerning the upgrade in biosecurity – Oct 2011
 - Seminar in DK in Nov 2011 for representatives of Spanish broiler companies and industry
 - 6 houses have been selected for fly screen by broiler company located in Madrid, and 12 houses for controls (the 6 without biosecurity, the 6 with upgraded biosecurity)
 - Training and posters targeted at the participating farmers/farms is under preparation in WP5
 - Meeting/seminar in Spain in May 2012 under preparation with the broiler company involved.

Task 2.1

Fly screens add-on to biosecurity

- Activities next project year UK
 - 28 Fly screens are to be established by the Defra project in UK (NI) between April and June 2012
 - 28 control houses are matched
 - CamCon will expand the Defra sampling to cover all 56 houses with boot sock sampling in the two originally planned rotations in spring/summer 2012 (conducted by U_LIV)
 - CamCon will extend sampling with boot socks after end of the original Defra project from August 2012 to May 2013 (56 houses during 5 rotations) conducted by DTU

Task 2.1

Fly screens add-on to biosecurity

- Activities next project year Spain
 - Meeting in Spain with the broiler company involved, to prepare and organise the fly screen interventions and introduce training in house level biosecurity procedures to the company employees (cooperation with WP5)
 - Arrange seminars or relevant training at farm level (cooperation with WP5)
 - Establish fly screens on 2 houses in summer 2012 to demonstrate functionality of fly screen in Spain during summer
 - Next: to establish 4 more houses with fly screen in the regions suggested: Andalucia, Catalonia, Galicia, Comunidad Valenciana
 - Cooperation with the broiler company involved in a joint project of the effect of installation of hygiene barriers compared to 'free' entrance of the broiler houses within this company
 - Running boot sock sampling of 6 screen houses and 12 control houses by boot socks during 2012-2013

Task 2.1

Fly screens add-on to biosecurity

- Problems
 - To get broiler companies to allocate houses for fly screen
 - In Spain, the need for upgrade of biosecurity from ‘farm level’ to ‘house level’ was not foreseen
- Points for discussion and decision
 - The boot sock method to apply in Spain – is it harmonized with the U_LIV/DTU method ?
 - The Cooperation Agreement with the Defra project, in particular clarifying rights to results and publications

Task 2.2

Phage therapy

- Task leader: Peter Willemssen, CVI-LEI
- Participants: UMinho, DTU

No	Deliverable	Status	Due
2.2.1	Collection of phages to be used for therapy to control Campylobacter	✓	Apr12
2.2.2	Paper on the efficacy and effectiveness of the use of phages to combat Campylobacter in field trials	—	Apr14
2.2.3	Paper on the effectiveness of phage therapy	—	Apr14

✓ = delivered, ▶ = started, — = not started

Task 2.2

Phage therapy

- Activities and results so far
 - Establishment of a broad host-range phage-cocktail
 - 2.2.1, 2.2.2, 2.2.3:
 - CVI: 4 phages lyse 16 reference *Campylobacter* plus 55 randomly chosen *Campylobacter* from CNET
 - UMINHO: 5 phages lyse 30 randomly chosen *Campylobacter* from CNET (77% of tested strains) plus 36 clinical and alimentary *C. coli* and *C. jejuni* strains from IBB-UMinho (82% of tested strains)
 - Ongoing phage isolation for resistant *Campylobacter* strains
 - CVI: no new phages against resistant *Campylobacter* strains
 - UMINHO: The 5 selected phages were able to lyse 50% of IBB-UMinho and 50% of CVI *in vitro* induced resistant strains (23 strains tested)

Task 2.2

Phage therapy

- Characterization of phages from cocktail (NGS)
 - 2.2.4
CVI: four phages sequenced, analysis ongoing
UMINHO: five phages are being characterized by RFLP, PFGE, SDS-PAGE, and their one-step growth curves and adsorption rates accessed
- Activities next project year
UMINHO and CVI:
 - 2.2.5: *In vivo* animal experiments: best conditions for phage delivery, dosis and timing
 - 2.2.6: High scale production of phages
 - 2.2.4: Further characterization of phages

Task 2.2

Phage therapy

- Problems
 - Relevance and impact of resistant *Campylobacter*
 - Low phage yield achieved on a small scale liquid broth which leads to difficulties for scale-up production
- Points for discussion and decision
 - Planning animal experiments

Task 2.3

Vaccination

- Task leader: Jaap Wagenaar, UU
- Participants: CVI-LEI

No	Deliverable	Status	Due
2.3.1	Identification of immune response against <i>C. jejuni</i> subunit vaccines	▶	Apr12
2.3.2	Identification of immune response against <i>C. jejuni</i> whole cell vaccines	▶	Apr12
2.3.3	Protection against <i>C. jejuni</i> challenge after vaccination with <i>C. jejuni</i> subunit vaccines	—	Apr13
2.3.4	Protection against <i>C. jejuni</i> challenge after vaccination with <i>C. jejuni</i> killed whole cell vaccines	—	Apr14

√ = delivered, ▶ = started, — = not started

Task 2.3

Vaccination

- Activities and results so far
 - Generation of recombinant vaccine components
 - In ovo vaccination generates immune response
- Activities next project year
 - In ovo vaccination of SPF versus commercial chicken
 - *C. jejuni* challenge of vaccinated chicken
- Problems
 - Stability of vaccine production
- Points for discussion and decision
 - Development of *in vitro* response correlates of protection?

WP3 Committee Meeting

- Mathilde Josefsen, DTU (acting leader)
 - Former WP leader Laurids Siig Christensen has left DTU
 - New WP leader to be approved by General Assembly
- Other participants: NVRI

Task 3.1

Development of methods of quantification of *Campylobacter* in air

- Acting Task leader: Mathilde Josefsen, DTU
- Participants: DTU

No	Deliverable	Status	Due
3.1.1	Establishment of methods of quantification of airborne <i>Campylobacter</i>	▶ *	Apr12
3.1.2	Definition of level of sensitivity	√	Apr12
3.1.3	Publication on quantities of airborne <i>Campylobacter</i>	▶ *	Apr12
3.1.4	Identification of a suitable semi-automated technology allowing semi-continuous monitoring of airborne <i>Campylobacter</i>	√	Apr12

√ = delivered, ▶ = started, — = not started

*Manuscript in preparation (Christensen et al.)

Task 3.1

Development of methods of quantification of *Campylobacter* in air

- Activities and results so far
 - Strategy based on the ILOC technology initially pursued and now aborted
 - Methods established based on sampling through gelatine filters
- Activities next project year
 - Methods established to be used and further evaluated in Poland
- Problems
 - The bankruptcy of iloc A/S
- Points for discussion and decision
 - Can any other feasible technology platform for semi-automatic air sampling & detection be identified?

Task 3.2

Feasibility of real-time monitoring of *Campylobacter* in broiler flocks

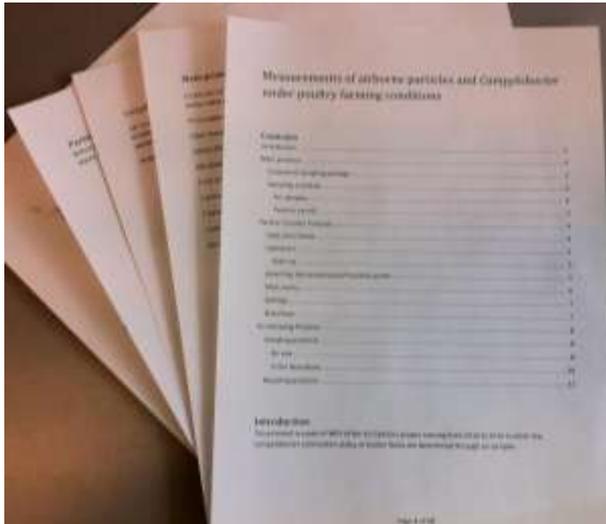
- Acting Task leader: Mathilde Josefson, DTU
- Participants: NVRI

No	Deliverable	Status	Due
3.2.1	Knowledge of the airborne particle size distribution under various farming conditions	▶	Apr13
3.2.2	Knowledge of the ratio of airborne particles and <i>Campylobacter</i> under various farming conditions	▶	Apr14
√ = delivered, ▶ = started, — = not started			

Task 3.2

Feasibility of real-time monitoring of *Campylobacter* in broiler flocks

- Activities and results so far
 - Sampling by NVRI in Poland arranged
 - Technology transfer:



Task 3.2

Feasibility of real-time monitoring of *Campylobacter* in broiler flocks

- Sampling: 3 x air measurements, 1 x particle count, 2 boot swabs



Week								
0	1	2	3	4	5	6	7	8
x	x	x	xx	x	x	x	x	x
x	x	x	xx	x	x	x	x	x
x	x	x	xx	x	x	x	x	x

- Points for discussion and decision
 - Available for all project partners

↓
Return to DK
for analysis

Task 3.3

Report on future research needs

- Acting Task leader: Mathilde Josefsen, DTU
- Participants: DTU

No	Deliverable	Status	Due
3.3.1	Report on future research needs regarding diagnostic tools to detect Campylobacter in primary poultry production	▶	Apr14

√ = delivered, ▶ = started, — = not started

Task 3.3

Report on future research needs

- Activities and results so far
 - Review: Detection and enumeration of *Campylobacter* in primary poultry production – From culture to genes and beyond (submission to AEM)
 - J. Hoorfar, K. Pedersen, M. Søndergaard, A. Bhunia, A. Byrd, M. Josefsen
- Activities next project year
 - Finishing and publishing the review
- Problems
 - None
- Points for discussion and decision
 - None

WP4 Committee Meeting

- Maarten Nauta, DTU
- Other participants: all except DIA, UMinho, UNEW

Task 4.1

Risk assessment

- Task leader: Maarten Nauta, DTU
- Participants: DTU

No	Deliverable	Status	Due
4.1.1	Research paper on the QRA model	—	Feb14

√ = delivered, ► = started, — = not started

Task 4.1

Risk assessment

- Activities and results so far
 - Model development started
- Activities next project year
 - Continue model development
 - Risk factors from (WP1), fly screens (WP2)
 - Vaccination and Phages (WP2)
- Problems
 - Timely delivery of data from other WPs
- Points for discussion and decision
 - Timely delivery of data from other WPs

Task 4.2

Data collection and compilation

- Task leader: Hanne Rosenquist, DTU
- Participants: CVI-LEI, NVI, ULIV, UU, CSA, NVRI

No	Deliverable	Status	Due
4.2.1	Report on data collected for risk assessment and economics	—	Feb14

√ = delivered, ► = started, — = not started

Task 4.2

Data collection and compilation

- Activities and results so far
 - Data workshop 2011
 - Data request on economics and RA
 - Questionnaire WP 1
 - Additional regional data (DK, NO)
- Activities next project year
 - Present received data in a report
- Problems
 - Limited data re RA
- Points for discussion and decision
 - Timely delivery of data from other WPs

Task 4.3

Economics

- Task leader: Peter van Horne, CVI-LEI
- Participants: CVI-LEI

No	Deliverable	Status	Due
4.3.1	Research paper on the cost-effectiveness of interventions in different regions in Europe	—	M48

√ = delivered, ▶ = started, — = not started

Task 4.3

Economics

- Activities and results so far
 - Collection on general economic data in countries
 - Analyses / verifying on country data
 - Start with modelling
- Activities next project year
 - Collection of specific economic data for interventions
 - Prevalence data collection (intervention measures)
 - Modelling economics
- Problems
 - None
- Points for discussion and decision
 - Prevalence data

Task 4.4

Cost-effectiveness on interventions at farm and comparison with interventions post farm

- Task leader: Maarten Nauta, DTU
- Participants: CVI-LEI

No	Deliverable	Status	Due
4.4.1	Research paper on integration of risk assessment and economy	—	Feb14

√ = delivered, ▶ = started, — = not started

Task 4.4

Cost-effectiveness on interventions at farm and comparison with interventions post farm

- Activities and results so far
 - contacts DTU - LEI

- Activities next project year
 - Await results from other tasks

- Problems
 - None, so far

- Points for discussion and decision
 - None

Task 4.5

Future data needs

- Task leader: Maarten Nauta, DTU
- Participants: CVI-LEI

No	Deliverable	Status	Due
4.4.1	Report on major outcome of WP4	—	Apr14
4.5.1	Report on future data needs	—	Apr14

√ = delivered, ► = started, — = not started

Task 4.5

Future data needs

- Activities and results so far
 - To be done
- Activities next project year
 - Few
- Problems
 - None
- Points for discussion and decision
 - None

WP5 Committee Meeting

- Mogens Madsen, DIA
- Other participants: all except CVI-LEI, UMinho, UNEW

Task 5.1

Best Practice Manual for production of Camp-free chickens

- Task leader: Mogens Madsen, DIA
- Participants: all other participants in WP5

No	Deliverable	Status	Due
5.1.1	Best Practice Manual	▶	Dec13
√ = delivered, ▶ = started, — = not started			

Task 5.1

Best Practice Manual for production of Camp-free chickens

- Activities and results so far
 - Planning of very basic Best Practice Manual for use in Spanish farms participating in Task 2.1
- Activities next project year
 - Collation of material on biosecurity/ Good Husbandry Practice from available sources
- Problems
 - None
- Points for discussion and decision
 - None

Deliv.	2010	2011	2011	2012	2012	2013	2013	2014
5.1								

Task 5.2

Specific targeted learning programmes for proficiency in implementing the “BPM for production of Camp-free chickens”

- Task leader: Mogens Madsen, DIA
- Participants: DTU, all other participants in WP5

No	Deliverable	Status	Due
5.2.1	Plan for distribution of the final E-learning product	—	Oct13
5.2.2	E-learning programme	—	Apr14

√ = delivered, ► = started, — = not started

Task 5.2

Specific targeted learning programmes for proficiency in implementing the “BPM for production of Camp-free chickens”

- Activities and results so far
 - A preliminary exercise with a video production, with the programme running for a test period on the Conzentrare platform (Year 1)
- Activities next project year
 - Start collation of stakeholder list for distribution plan of final E-learning product
 - Definition of key elements for learning programmes on BPM
- Problems
 - None
- Points for discussion and decision
 - None

Deliv.	2010	2011	2011	2012	2012	2013	2013	2014
5.2.1								
5.2.2								

Task 5.3

Voluntary Certification Programme

- Task leader: Mogens Madsen, DIA
- Participants: all other participants in WP5

No	Deliverable	Status	Due
5.3.1	Voluntary Certification Programme	—	Apr14

√ = delivered, ► = started, — = not started

Task 5.3

Voluntary Certification Programme

- Activities and results so far
 - None
- Activities next project year
 - Nothing planned
- Problems
 - None
- Points for discussion and decision
 - None

Deliv.	2010	2011	2011	2012	2012	2013	2013	2014
5.3.1								

WP6 Committee Meeting

- Merete Hofshagen, NVI
- Other participants: all

Task 6.1 – 6.3

CA, Management team, Web site

- Task leader: Merete Hofshagen, NVI
- Participants: all

No	Deliverable	Status	Due
6.1.1	The Consortium Agreement signed by all participants	√	Apr10
6.2.1	Management support team appointed	√	Jun10
6.3.1	The Project web site established	√	Aug10

√ = delivered, ► = started, — = not started

Task 6.1 – 6.3

CA, Management team, Web site

- Activities and results so far
 - According to plan
- Activities next project year
 - Regular updates on Web
- Problems
 - None
- Points for discussion and decision
 - None

Task 6.4

Establish and maintain the Communication and Dissemination Plan

- Task leader: Merete Hofshagen, NVI
- Participants: all

No	Deliverable	Status	Due
6.4.1	Plan for the use and dissemination of foreground presented	▶	Jun14

√ = delivered, ▶ = started, — = not started

Task 6.4

Establish and maintain the Communication and Dissemination Plan

- Activities and results so far
 - Draft plan discussed with WP leaders
 - Published on Web (participant pages)
- Activities next project year
 - Active dissemination nationally
- Problems
 - None
- Points for discussion and decision
 - None

Task 6.5 – 6.6

Meetings and reports

- Task leader: Merete Hofshagen, NVI
- Participants: all

No	Deliverable	Status	Due
6.5.1	Reports of project's meetings	√, √ ▶ — —	Jun10, Jun11 Dec12 (May12) Jan14 (Oct13) (Jun14)
6.6.1	Regular reports to the European Commission	√ — —	Dec11 Apr13 Apr14
6.6.2	Report on awareness and wider societal implications	—	Apr14

√ = delivered, ▶ = started, — = not started

Task 6.5 – 6.6

Meetings and reports

- Activities and results so far
 - Annual and Quarterly Meetings – Periodic report to COM
 - Economical reporting to Coordinator every 6 months
- Activities next project year
 - Meetings and Minutes
 - Economical reporting to Coordinator every 9 months
 - Send Deliverables to Coordinator for uploading to COM
- Problems
 - Technical problems with COM reporting system, but solved
- Points for discussion and decision
 - None

Executive Board Meeting

■ Discussions

- In general good progress, will be delays due to late start of some Tasks (due to problems with recruiting farms)
- Good collaboration between WPs

■ Decisions

- Next Quarterly Meeting: Start discussions on publications

General Assembly

- Discussions
- Decisions:
 - Mathilde Josefsen, DTU approved as new WP3 leader
 - Next Annual Meeting: Try to get this in connection with CHRO in Aberdeen