

PROTOCOL - ASQARI

Title:

Clinical trial of different plant compounds in organic egg layers (WP3, BIOACT, Task 3.2)

Aim:

To test the efficacy of Asqari administered in the feed on egg size, body weight and worm egg excretion.

Study design:

- 1-2 organic egg layer farms
- 2 or 4 houses per farm (criteria: need to be able to administer feed separately per house)
- Minimum number of hens per flock/house: farm dependent, but typically >1000 animals
- Treatment with test compound or placebo (?) administered at house level (or sections, depending on farm structure)
- Compound administration: in the feed, which is mixed and delivered by feed mill (who makes arrangements with feed mills?)
- Feed concentrate containing the Asqari compound will be added to the conveyer belt. Important to ensure all 5 flock receive the feed concentrate with Asqari (idea: colour marking of normal feed when concentrate is added to ensure concentrate is given to all flocks). Note: check hardware delivery company (Skiold, Skov?)
- Treatment frequency: 5 consecutive days, all feedings per day
- Dose: As specified by the supplier (ASQARI ApS)
- Parameters to be recorded:
 - o Egg size
 - o Body weight
 - o Worm egg excretion – fecal samples collected after 5th day of treatment are compared with pre-treatment egg counts (Fecal Egg Count Reduction Test, WAAVP protocol)
 - o Multiple egg count days necessary?

| Study day | Study event |
|-----------------|--|
| TBD | Screening samples (fecal droppings) are collected from x houses per farm and analyzed for eggs of Ascaridia (Heterakis, Capillaria?) Inclusion criteria: 100 EPG? |
| TBD | Collection of pre-treatment data on egg size and body weight Instruction of farm staff on administration of compound(s) |
| -7 | Production of feed batch with test compounds (unless pour on) |
| 0 | Collection of pre-treatment fecal samples |
| 1-5 (inclusive) | Administration of feed with test compound or placebo |
| 7 | Collection of post-treatment fecal samples |
| 7-10 | Egg counts on fecal samples at Værløse Dyreklinik |
| 14 | Collection of post-treatment fecal samples |
| 14 | Post-mortem on 6 hens per treated flock and 6-10 hens from control group hens to measure worm burdens |

Collection of data:

- E-control data. Sofie has access to farm data, will arrange with farm owner that these can be used, preferably anonymous.
- Data from Poultry Plan (at Månsson) - day to day:
 - o Laying %
 - o Egg weight, average
 - o Water consumption
 - o Feed consumption
 - o FCR
 - o Body weight
 - o Mortality
- Data from egg packer (after eggs have been collected):
 - o Egg classification % (XL, L, S, XS, blood eggs, dirty eggs, pieces, discarded)
- Compensate the farmer for hens needed for post-mortem (market price)
- Make a small contract/NDA with each farm

Procedure for administration of Asqari:

- Feed mill will produce feed for 5 days – DLG or Danish Agro
- According to dosing instruction from supplier
- Administer feed according to usual practice (to be agreed with farm staff)
- Sofie present at first treatment to monitor procedure

Procedure for collection of feces:

- According to WAAVP guidelines for FECRT
- Collect minimum xx droppings per house
- Store in plastic bags/ containers (temperature?)
- Transport to the lab (on the same day?)
- Post-mortem examination for worms on xx hens

From the GUDP application:**WP3: Clinical tests under field conditions in commercial organic egg production farms (ICOEL)**

- 3.1 Preparation of plant compound material to be mixed in the feed following quality assurance
- 3.2 Development of a clinical test protocol including sample sizes, fecal sample analysis methods and postmortem procedures. The clinical effect of the compounds will be determined on egg size, body weight and worm egg excretion
- 3.3 Field study in 3 commercial organic egg producing farms to test the efficacy of the three most promising single or mixed compounds identified in WP2 using targeted treatment (5-day administration scheme) and to monitor productivity of hens
- 3.4 Field study in the same farms (but in different flocks) to test the efficacy of the compounds from 3.3 when administered continuously in the feed during the egg laying period (max. 30 weeks)