

## Techniques to reduce ammonia and greenhouse gases emissions in non-caged laying hen houses

### Riferimenti

Tipo di progetto

Gruppo Operativo

Acronimo

GasFreeHens

Tematica

Emissioni di inquinanti e gas serra

Information

Time frame

2017 - 2020

Durata

35 months

Partners (no.)

7

Regione

Emilia-Romagna

Comparto

Zootecnia - avicoli

Localizzazione

ITH53 - Reggio nell'Emilia

ITH55 - Bologna

ITH56 - Ferrara

Costo totale

€189.187,61

Fonte di finanziamento principale

Programma di sviluppo rurale

Programma di sviluppo rurale

2014IT06RDRP003: Italy - Rural Development

Programme (Regional) - Emilia Romagna

Parole chiave

Animal husbandry and welfare

Climate and climate change

Fertilisation and nutrients management

Sito web

[http://gasfreehens.crpa.it/nqcontent.cfm?a\\_id=1](http://gasfreehens.crpa.it/nqcontent.cfm?a_id=1)

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Project status

completed



### Objectives

The OG objective is to determine the reduction of ammonia and greenhouse gases emissions that can be realized in some innovative types of housing system salternative to cages for laying hens: the aviary system combined to the external drying tunnel and the system with longitudinal ventilation under the perchery. The ammonia emission levels associated with the techniques will allow to provide elements to qualify the techniques as BAT.

### Activities

The main activities that will be undertaken are:

- development of the network of sensors for continuous monitoring of ammonia concentrations;
- monitoring of the system aviary + drying tunnel;
- monitoring of the system aviary with additives in feed;
- monitoring of emissions from storage heaps;
- monitoring of emissions from the ground system with longitudinal ventilation;
- emissions from manure land spreading;
- integrated assessment of the reduction of emissions throughout the supply chain.

## Tecniche per ridurre le emissioni di ammoniaca e gas serra dei sistemi a terra per le ovaiole

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<https://www.innovarurale.it/pei-agri/gruppi-operativi/bancadati-go-pei/tecniche-ridurre-le-emissioni-di-ammoniaca-e-gas-serra>

### Partenariato

| Role    | Azienda                                        | Address                                                      | Telephone    | E-mail                           |
|---------|------------------------------------------------|--------------------------------------------------------------|--------------|----------------------------------|
| Leader  | C.R.P.A. S.p.A.                                | V.le Timavo 42/2<br>42121 Reggio Emilia<br>RE<br>Italy       | 0522 436999  | info@crpa.it                     |
| Partner | Agricola Albarello srl                         | Via Panigalli 40<br>44020 Ferrara FE<br>Italy                | 0533 650232  | agr.albarello@libero.it          |
| Partner | ASSOAVI - UOVA S.C.A.R.L.                      | Via Punta di Ferro 2<br>47100 Forlì FC<br>Italy              | 0543 774904  | info@assoavi.it                  |
| Partner | Fondazione CRPA Studi<br>Ricerche              | Viale Timavo 43/2<br>42121 Reggio Emilia<br>RE<br>Italy      | 0522- 436999 | info@fondazionecrpa.it           |
| Partner | Micro snc Soc. agr. Di<br>Stronati Alfio & C.  | Via Guido Guarini<br>Matteucci 24<br>47021 Forlì FC<br>Italy | 0543 32006   | valeriopiccini@picciniaziende.it |
| Partner | Proambiente s.c.r.l.                           | Via Gobetti 101<br>40129 Bologna BO<br>Italy                 | 051 6399587  | info@consorzioproambiente.it     |
| Partner | Società Agricola Fiorin di<br>Lionello & C. ss | Via Porzia 3<br>40027 Mordano BO<br>Italy                    | 0425 768747  | agricolafiorin@legalmail.it      |

### Pratiche abstract

#### Description

The OG objective is to determine the degree of reduction of ammonia and greenhouse gases emissions that can be realized in some innovative types of housing systems alternative to cages for laying hens: the aviary system combined to the external drying tunnel and the system with longitudinal ventilation under the perchery. The ammonia emission levels associated with the techniques will allow to provide elements to qualify the techniques as BAT. The main expected results are:

- Quantification of ammonia emissions from the housing system for laying hens on the ground with a longitudinal ventilation, to qualify the techniques as BAT.
- Quantification of the reduction of ammonia emissions achieved with the association of the external drying tunnel to the

aviary system.

- Quantification of the reduction of ammonia emissions achieved with the association to the aviary system of complementary feed with antioxidant action.
- Quantification of emissions during storage and land spreading of poultry manure with different composition.

Link utili

| Titolo/Descrizione                                                                                                                         | Url                                                                                                                                                             | Tipologia       |
|--------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| Sito web del progetto                                                                                                                      | <a href="http://gasfreehens.crpa.it/nqcontent.cfm?a_id=16493">http://gasfreehens.crpa.it/nqcontent.cfm?a_id=16493</a>                                           | Sito web        |
| Quantificare la riduzione delle emissioni di ammoniaca di alcune soluzioni innovative per i sistemi di allevamento alternativi alle gabbie | <a href="http://gasfreehens.crpa.it/nqcontent.cfm?a_id=18701">http://gasfreehens.crpa.it/nqcontent.cfm?a_id=18701</a>                                           | Materiali utili |
| Newsletter n. 1                                                                                                                            | <a href="http://gasfreehens.crpa.it/nqcontent.cfm?a_id=18705">http://gasfreehens.crpa.it/nqcontent.cfm?a_id=18705</a>                                           | Materiali utili |
| Monitoraggio delle emissioni dai ricoveri di galline ovaiole In sistemi a voliera                                                          | <a href="http://gasfreehens.crpa.it/nqcontent.cfm?a_id=21957&amp;tt=t_bt_app1_www">http://gasfreehens.crpa.it/nqcontent.cfm?a_id=21957&amp;tt=t_bt_app1_www</a> | Materiali utili |
| Gas Free Hens alla Fieragricola di Verona - Presentazioni e Programma                                                                      | <a href="http://gasfreehens.crpa.it/nqcontent.cfm?a_id=20166&amp;tt=t_bt_app1_www">http://gasfreehens.crpa.it/nqcontent.cfm?a_id=20166&amp;tt=t_bt_app1_www</a> | Materiali utili |
| Gas Free Hens spiegato in un articolo                                                                                                      | <a href="http://gasfreehens.crpa.it/nqcontent.cfm?a_id=20821">http://gasfreehens.crpa.it/nqcontent.cfm?a_id=20821</a>                                           | Materiali utili |
| Newsletter n. 2                                                                                                                            | <a href="http://gasfreehens.crpa.it/nqcontent.cfm?a_id=21995">http://gasfreehens.crpa.it/nqcontent.cfm?a_id=21995</a>                                           | Materiali utili |
| Newsletter n. 3                                                                                                                            | <a href="http://gasfreehens.crpa.it/nqcontent.cfm?a_id=21994">http://gasfreehens.crpa.it/nqcontent.cfm?a_id=21994</a>                                           | Materiali utili |
| Concluse le attività del Gruppo Operativo per l'Innovazione                                                                                | <a href="http://gasfreehens.crpa.it/nqcontent.cfm?a_id=22020">http://gasfreehens.crpa.it/nqcontent.cfm?a_id=22020</a>                                           | Materiali utili |

## Tecniche per ridurre le emissioni di ammoniaca e gas serra dei sistemi a terra per le ovaiole

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| Titolo/Descrizione                                    | Url                                                                                                                   | Tipologia       |
|-------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|-----------------|
| video clip con spiegazioni sui risultati del progetto | <a href="http://gasfreehens.crpa.it/nqcontent.cfm?a_id=22033">http://gasfreehens.crpa.it/nqcontent.cfm?a_id=22033</a> | Materiali utili |
| GasFreeHens su Agronotizie                            | <a href="http://gasfreehens.crpa.it/nqcontent.cfm?a_id=22105">http://gasfreehens.crpa.it/nqcontent.cfm?a_id=22105</a> | Materiali utili |