Table 1 Characteristics of each laying hen house (A1, A2, A3 – automated systems; S1, S2 – semiautomated systems; FR – free range) and management, between August 2013 and August 2014, in Vale do Taquari, Rio Grande do Sul, Brazil

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|  | Laying hen stock and breed | Laying hen age | Sample effort | Pesticides |
| *A1* | 39,000 white Bovans | 45 – 94 weeks  16 – 20 weeks (new batch from August 2014) | 21 samples of feathers  10 laying hen/sample  Total n*A1feathers*= 210  20 samples of traps  16 traps/sample  Total n*A1traps*= 320 | Fipronil 1% (feed) in September 2013 |
| *A2* | 60,000 50% white Bovans and 50% red Isa brown | 68 – 98 weeks  17 – 37 weeks (new batch from April 2014) | 20 samples of feathers  10 laying hen/sample  Total n*A2feathers*= 200  18 samples of traps  16 traps/sample  Total n*A2traps*= 288 | Fipronil 1% (feed) in September 2013 |
| *A3* | 35,000 red Isa brown | 99 – 109 weeks  19 – 54 weeks (new batch from December 2014) | 17 samples of feathers  10 laying hen/sample  Total n*A3 feathers* = 170  16 samples of traps  16 traps/sample  Total n*A3traps*= 256 | 15% cypermethrin, 25% chlorpyrifos and 1% citronellal (pulverized) twice in April 2014 |
| *S1* | 7,750 red Dekalb | 45 – 88 weeks | 18 samples of feathers  10 laying hen/sample  Total n*S1 feathers* = 180  18 samples of traps  16 traps/sample  Total n*S1traps*= 288 | - |
| *S2* | 10,400 red Isa Brown | 41 – 95 | 22 samples of feathers  10 laying hen/sample  Total n*S2 feathers* = 220  21 samples of traps  16 traps/sample  Total n*S2traps*= 336 | Fipronil 1% (feed) in September 2013 and May 2014 |
| *FR* | 3,500 red Isa Brown | 44 – 88 weeks | 19 samples of feathers  10 laying hen/sample  Total n*FR feathers* = 190  19 samples of traps  16 traps/sample  Total n*FRtraps*= 304 | Propoxur 1% (nests) in December 2013, January and August 2014 |