The prolific hen is one of a range Animal Welfare Approved technical papers designed to provide practical advice and support to farmers. For more information visit our website.

SHORT DESCRIPTION OF TECHNICAL PAPER CONTENT

About this technical paper

This technical paper provides farmers who are participating in the Animal Welfare Approved program with information about prolific hens. Key topics include egg production numbers, health problems arising from high numbers of eggs per cycle and information on suitable birds for the AWA program.

KEYWORDS

Eggs per cycle, breed, hybrid, peritonitis, prolapse

The prolific hybrid hen

Why less is more when it comes to egg laying

Animal Welfare Approved standards recommend farmers in the program keep hens that have been bred to lay less than 280 eggs per cycle. Whilst it might be thought that from an economic point of view the best thing for the farm is to keep hens that lay as many eggs as possible, serious health and welfare problems can arise from this prolific production.

The majority of breed types available to the egg producer today are hybrids. Hybrid birds were developed as a response to the rising consumer demand for eggs from the 1950s onwards. Whilst in theory hybrid hens are crosses of well known standard breeds such as Rhode Island Red, Plymouth Rock, Sussex and Leghorn it isn't actually as straight forward as taking a hen from one breed and crossing her with a rooster from another. Poultry breeding companies selected birds with high egg production within particular breeds and strains, crossed them with other high producing breeds, selected the best from these and cross bred again. The result is that today's high laying hybrid birds are far removed from their traditional ancestors and their egg production is generally 315 to 350 eggs per cycle.

The conventional egg producer needs to sell eggs every week of the year and the consumer has learned to expect this. We have come a long way from the seasonal production of the backyard bird which laid eggs from spring to fall and then went into molt in the winter, shedding and renewing its feathers and preparing for the next egg laying cycle once the day length increased again the following spring. These days the birds may never see natural light and as their egg production drops off at the end of the cycle they are not given a chance to molt and lay again – they are slaughtered and new birds are brought in.

The hybrid birds are therefore designed to fit the industrial egg producing model. They lay a huge number of eggs in a relatively short space of time and are not bred to have longevity – they are only designed to live for a year. The original standard bred birds and their first crosses by comparison produce fewer eggs per hen – anywhere from 150 to 220 per cycle – but if permitted to molt will come back into lay for a second and third season and even beyond. The numbers of eggs drop to about 80% of the previous year's total but the size of egg often increases. In her first year this less engineered bird will lay fewer eggs than her hybrid counterpart – but over her lifetime she will far outweigh the hybrid's production.

Aside from a shorter life the hybrid bird can be more prone to particular health problems. Producing an eggshell takes a large amount of calcium and although layer feed will include soluble calcium to support this it is not always sufficient. A highly prolific egg layer will therefore transfer calcium from her bones to create eggshell, which can lead to osteoporosis and a greater incidence of broken bones. The fragility of the bone can mean that breaks can occur as the bird moves around the housing or range area – for

example keel bone fractures may occur if the hen knocks herself as she jumps or flies up to perch. Other breaks may occur when hens are caught at the end of lay to be moved to slaughter – wing or leg breaks would be most common at this time. Bone fracture of any kind will result in pain and debility and could lead to death.

Prolific layers can also be affected by egg peritonitis. The egg yolk provides a good medium for bacterial growth and may sometimes become infected while it is still inside the bird. Infection may occur while the yolk is moving down the egg tract or when a yolk fails to enter the oviduct and is shed into the body cavity. Prolific layers are producing eggs incessantly putting a huge strain on their reproductive system and particularly the oviduct – the tract where the egg develops inside the hen. This repeated stress and damage to the oviduct over months of laying make the bird far more susceptible to internal infection such as peritonitis. Prolific layers may die without warning, or may gradually become ill when affected by egg peritonitis. There is no viable commercial treatment for this disorder.

One other health problem that afflicts the highly prolific hybrid hen is prolapse. When an egg is laid the hen temporarily turns the bottom of the oviduct inside out. Normally the oviduct will retract after the egg is laid but sometimes it remains outside and is termed a prolapse. Aside from the risk of infection entering the prolapsed oviduct other birds in the group may pack and cannibalize the affected bird. The risk factors for prolapse include young birds coming into lay too soon and overweight birds but also over-productive birds. The sheer stress of peak production for a highly prolific egg layer puts an enormous strain on her metabolism as well as potentially weakening the cloacal muscles which control the oviduct making prolapse far more likely. The outcome of prolapse for a hen in the commercial flock is not good. Even the individual attention that can be given in the small flock may not save the bird.

There is also research that suggests that higher egg production breed types put less time and energy into foraging behaviors. This is important for two reasons. Firstly with a pastured egg system you want the bird to maximize their use of the pasture area. This is good for both bird behavior and in order to maximize the possibilities of the bird getting some feed from the range. Secondly it has been shown that the more birds go out and range the less likely it is that there will be any feather pecking in the flock.

In summary the prolific hen is far more likely to suffer from health and welfare problems and needs careful management to ensure her welfare is protected. These hens may also suffer a severe drop off in egg production in subsequent laying cycles after molt. *Animal Welfare Approved* therefore recommends that these highly prolific birds are not used – and that farmers choose standard breeds and first crosses that have a lower potential to lay in their first cycle; but which will have greater longevity and lifetime egg production.

If prolific birds are selected, and negative welfare outcomes from the use of prolific hens, such as high mortality, high levels of prolapse or bone fractures are seen or reported, the *Animal Welfare Approved* program may require the farmer to change breeds for any replacement hens within the affected flock or any future flocks in order for to retain certification.

Examples of hybrid layers likely to lay more than 280 eggs per cycle

- Red Sex Link
- Red Star
- Bovan Brown
- Hy-line Brown
- Golden Comet
- Cinnamon Queen
- Golden Sex Link
- Golden Buff
- Golden Red.
- Black Sex Link
- Black Star.
- Production Reds, supposed to be a cross of RIR X New Hampshire Red

Hatcheries

Animal Welfare Approved supports farmers who manage their own breeding flocks and produce their own pullets. However we accept that some farmers do not have the time or the expertise to do this and must therefore source their birds from hatcheries.

Note this list does not denote any recommendation for a particular hatchery.

Cackle Hatchery
PO Box 529, Lebanon, MO 65536
http://www.cacklehatchery.com
Tel: 417-532-4581

Ideal Poultry Breeding Farms, Inc.
PO Box 591 Cameron, TX 76520-0591
215 West Main Cameron, TX 76520
http://www.ideal-poultry.com
Tel: 254-697-6677

McMurray Hatchery IA
PO Box 458, 191 Closz Drive, Webster City, Iowa 50595
http://www.mcmurrayhatchery.com
Tel: 515-832-3280 or toll free 800-456-3280

Reich Poultry Farm, Inc.,
1625 River Road, Marietta, Pennsylvania 17547 -9504
http://reichspoultryfarm.com/
Tel: 866-365-0367

Ridgway Hatcheries, Inc.
615 North High Street Box 306, Larue, Ohio 43332 – 0306
http://www.ridgwayhatchery.com
Tel: 740-499-2828

Stromberg's Chicks
P.O. Box 400
Pine River, Mn 56474
http://www.strombergschickens.com
Tel: 218-587-2222 or toll free 800-720-1134

Welp Hatchery Inc.
PO BOX 77, Bancroft, Iowa 50517 USA
http://www.welphatchery.com
Tel: 800-458-4473