

## Ex-Battery Hens

One of the reasons for this webinar introducing battery and ex-battery hens is that the majority of birds that come through out consult room doors are ex-bats. Those who breed and show birds often cull sick birds whilst those who have rescued them are much more likely to be willing to spend time and money on nursing, diagnostics and treatment. Obviously this is only a generalisation!

## Key Facts

- Birds need a minimum of 13/14 hours light a day to lay- you can give them artificial light but don't leave the light on 24/7 as this may impair their immune function
- Generally ex-bats weigh approximately 2kg but remember body condition is more important than bodyweight
- In rear commercial layers have many vaccines (over 20)- this means that when rehoming these birds to holdings with unvaccinated home-bred birds disease can become an issue. Personally I don't believe this is an issue if the holding has 5-10 birds but where owners have over 20 birds disease can become a risk.

## Range Considerations

One of the big issues with commercial free range holdings is that many of the birds don't range and those that do don't travel far from the pop holes. Remember chickens are descended from Jungle Fowl- and as the name implies these birds are naturally forest dwellers. Being placed in a field allows overhead predators to spook birds. One way around this is to plant trees in the range area thus encouraging birds to range. However trees can encourage wild birds to roost thus defecating on the range below- this can be a good way to introduce Salmonella and worms. If planting trees choose small trees such as cheery blossom trees or rowan trees to discourage crows etc from roosting. Big trees can also reduce ventilation around your coop thus compromising the birds' respiratory health.

The other issue is around the pop hole getting muddy with birds bringing in mud leading to dirty eggs. Using a ramp can help as can using either **untreated** bark or wood shavings outside the pop holes to keep the area clean.

## Salmonella

Ex-battery hens will have been vaccinated for Salmonella in rear. Some farms use live attenuated vaccines which can be shed for a considerable period after vaccination- if testing for salmonella in ex-bats always ensure any positive isn't the vaccine strain before calling the owners!!!

You can vaccinate birds in a backyard flock for salmonella. It's most practical to use a killed vaccine with 2 i.m. injections 4 weeks apart with an annual booster. The vaccine comes in 500 dose vials and should keep for the 4 week period between the first and the second vaccine. Remember that the vaccines only protect the bird vs. *typhimurium* and *enteritidis* and I have a concern that vaccination will lull owners into a false sense of security when it comes to kitchen hygiene and personal hygiene. Note these serovars are harmless to the bird itself.

### Campylobacter

Campylobacter is a commensal organism of poultry and although it was at one time thought to cause vibronic hepatitis this is no longer thought to be the case. Infection in man leads to vomiting and diarrhoea and is often associated with poor kitchen hygiene rather than coming from the birds themselves. There is no vaccine. Some vets look to use Erythromycin but this wouldn't prevent re-infection and I don't feel such use is responsible.

### Calcium

There are approximately 40g of calcium in a chicken's skeleton and approximately 4g in an average egg shell. Whilst most of a layer's calcium comes from her diet throughout lay her calcium reserves gradually become depleted. It was previously thought that caged hens lost more calcium from their bones than free range birds but maths tells us otherwise. The only difference between the different management systems is which bones the calcium is taken from. In cages birds the calcium is removed from their legs whilst in free range birds it is taken from their vertebrae and ribs. Always handle an ex-bat with care. Some owners advocate giving such birds calcium and vitamin D supplementation post-rehoming. Always be careful if owners supplement vitamin D and calcium that they don't overdo it so as to cause toxicity.

### Enteric Health of Ex-Bats

At the time of re-homing ex-bats will have a number of stresses:

- she will have spent her life on a wire cage floor and will not have been exposed to faecal bacteria- she's like a naive chick when it comes to enteric bacteria
- She's never been exposed to coccidiosis to build immunity!!!!!!!
- A change in social structure
- Change in environment
- Change in diet- some owners feed an ex-bat diet but this is rather expensive

Whilst normally we think of birds over 3 months as being resistant to coccidiosis for the first few weeks after being rehomed are susceptible to coccidiosis infection!

Given the above stressors it is not surprising that ex-bats can develop diarrhoea after rehoming. One way to tackle this is to give rehomed birds probiotics every week for the first few weeks in their drinking water. One such probiotic is Beryl's friendly bacteria- this is predominantly *Lactobacillus*. Furthermore in the days before Salmonella vaccines probiotics were widely used to competitively exclude pathogenic bacteria in poultry intestines.

### Rules on Keeping Backyard Poultry

All owners of 50 or more birds must sign on to the GB poultry register- it's free! This allows AHVLA to know where poultry are in the UK should there ever be an outbreak of a notifiable disease. I.e. AI or Newcastle disease.

If owners have over 350 laying hens you must sign up to the UK Salmonella scheme

This involves:

- testing the sheds before birds are placed in the sheds- dust samples and rodent droppings
- buying vaccinated birds or vaccinating pullets before they come into lay
- sampling the birds' droppings every 15 weeks using moistened boot swabs walking through the shed- we can provide testing!
- farmers also need to have a rodent control plan.

But all this costs money!

However it does mean that eggs from such birds can be stamped ☺ (the stamper costs as little as £30) and sold as class A. Owners need to have Class A eggs to sell to Restaurants, Shops, B and Bs etc. Owners can sell them at the gate unstamped. However there is a grey area surrounding selling eggs at schools- AHVLA don't recommend it as if there is an outbreak of food poisoning it will be easily traced.

If owners are selling eggs they need a medicines record book that is kept up to date!!!!

Some local authorities inspect farm gate egg sellers as a food business operator!

### Noisy Cockerels

There are occasionally clauses in the deeds of property prohibiting the keeping of livestock- are chickens pets or livestock?

Many local authorities will turn a blind eye on the condition that the birds are not a nuisance. However crowing cockerels can readily upset neighbours. Options for the crowing cockerel:

- Re-home him
- Keeping the inside of the coop dark until a sensible hour- this may help a bit- it varies between birds. But it rarely satisfies cranky neighbours
- Castration- due to the testes being at the cranial pole of the kidneys it is a difficult procedure requiring a GA. In almost all cases a tiny amount of the testes remains and they grow back! This is only successful if done pre-puberty
- Hormonal implants- don't really work

- Euthanasia- the sad reality is that most chicken keepers don't want cockerels- and those that do only want one per flock. 50% of chicks are male and therefore maths is stacked against them.

### Christmas Turkeys

It is possible to fatten up to 250 Christmas turkeys without salmonella testing. In the past people wrung their necks, however this year (we have no given start date yet!) new EU regulations are coming into force (WATOK) requiring non-emergency slaughter of turkeys to use stunning. Producers should go on a training course and obtain a license to stun birds.

### Analgesia in Poultry

As with any animal, the use of analgesia in backyard poultry is extremely important. Unfortunately for veterinary staff birds are incredibly stoic and often do not show signs of pain/illness until the condition is severe. Signs of pain in poultry can include:

- A lack of typical behaviours such as dust bathing, crowing (in cockerels), preening and scratching around in bedding
- Affected birds may be hunched up with ruffled feathers
- Birds may be reluctant to move and may be reluctant to weight bear on an affected leg
- A reluctance to feed
- Resent palpation of an injured area

Irrespective of whether or not there are clear signs of pain in a backyard patient, analgesia should be provided as per mammalian patients.

### ***Opioids***

**Butorphanol**- Unlike other opioids Butorphanol has a more significant effect on K receptors rather than on  $\mu$  receptors. Since birds have an abundance of k receptors Butorphanol can provide a better choice of opioid-based pain relief than other opioids.

There are several studies that have looked at the use of Butorphanol in birds as an analgesic. Whilst the recommended dose rates vary from 0.5mg/Kg to 2mg/Kg, it ought to be remembered that, in birds, Butorphanol has a much shorter half life and will need to be topped up more frequently than in mammals. Recommendations vary between every 4 and 24 hours but some studies have shown that the necessary plasma concentrations may only last as little as every 2 hours. The route of administration can be: I.M., I.V. or S.C.

**Tramadol-** Whilst the use of Tramadol has not been as extensively researched as Butorphanol, it has been demonstrated to be of use when given orally at 5mg/Kg twice daily to provide analgesia.

**NSAIDS-** As in many species the use of NSAIDS is often a vet's first line of defense in providing pain relief in birds. However as with mammals their side effects on the gastric system, renal system and hepatic system must not be forgotten.

**Carprofen-** Carprofen has been well documented in its use as an analgesic in birds including a study on lame broiler chickens. However the recommended dose rates vary considerably. The majority of papers recommend 4mg/Kg once or twice daily.

**Ketofen-** Ketofen has been demonstrated to have analgesic effects on ducks at 5mg/Kg I.M. However another study has described the minimum dose of Ketofen required as being much higher to the point whereby it may be fatal.

**Meloxicam-** Meloxicam is widely used in other pets and can be used in birds too. As with the other NSAIDs discussed above the dose rate and frequency varies between 0.1mg/Kg and 0.5mg/Kg every 12-24 hours.

**Aspirin-** Franvet produce an Aspirin product licensed for poultry in France that is recommended to be given at 30-50mg/Kg orally daily (this can be split into two doses).

**Corticosteroids-** Steroids can be used to reduce inflammation in avian patients just as in mammalian ones, however as in mammals they may lead to slower wound healing and immuno-suppression. As such NSAIDs and Butorphanol are better first line approaches to pain relief in birds. **Steroids should only be used as a last resort.** Documented dose rates are given below:

**Betamethasone-** 0.04mg/Kg

**Dexamethasone-** 0.06mg/Kg

**Prednisolone-** 2mg/Kg

**Local Anesthetics-** Local anesthetics are useful for procedures such as crop surgery.

**Lidocaine-** 1-4mg/Kg I.M. or S.C.

**Bupivacaine-** 1-2mg/Kg I.M. or S.C.

*Please note that the above dose rates and frequencies of administration are only approximate guidelines as there are no licensed analgesics for domestic fowl in the UK.*

### Anesthetics

Ideally birds should be fasted for approximately 4 hours to ensure the crop is empty

Remember pre-emptive analgesia

Whilst Propofol can be used for induction, however due to better control gas induction with Sevoflurane or Isoflurane is preferable.

Birds never naturally sit in dorsal recumbency- during mid-line surgery we put excessive pressure on the bird's respiratory system and as such PPV is usually advised.

Don't forget to keep them warm!