Battery Cages and the Welfare of Hens in Canada - a summary of the scientific literature

About the Battery Cage
- The battery cage system was introduced in the 1940's to produce the maximum number of eggs for the lowest possible price.
  - This is achieved through space reduction and tight control of water, food, and light available.
  - Genetic selection is also carried out to produce highly productive layers.
- Battery cages measure approximately 16” by 18” with sloping wire floors, stacked two to eight cages high.
  - They provide about 450 cm² per bird, with five to seven birds in each cage.
- Battery cages represent one of the worst manifestations of industrial farming and inhibit almost all of chickens’ natural behaviours.

Extent of Battery Cage Usage
- In 2006, 26 million egg-laying hens were kept in battery cages in Canada.
- The battery system produces 98% of Canada’s 6.5 billion eggs each year.
- Worldwide, approximately 70-80% of eggs are from hens in battery cages.

Change in Policies
- Over the past 20 years, there has been greater movement towards other forms of egg production in Europe.
  - In 1988, Sweden created the Animal Protection Act, which called for a phase-out of battery cages.
  - In 1991, Switzerland banned the use of all cages.
  - In 1994, the Netherlands created legislation to ban battery cages.
  - In 1999, the European Union enacted a ban on battery cages which will come into effect in 2012.
- In the European Union, labelling regulations have been changed.
  - Only three terms will be permitted on eggs: “Eggs from caged hens”, “Barn eggs”, and “Free-range hens”.

Hen Behaviour and Environment
- Crowding
  - The area occupied by an average hen at rest is approximately 600 cm². Hens require at least 750 cm² to create any “free space” and need 2000 cm² to flap their wings.
  - Hens in Canada are allocated between 432 cm² and 483 cm².
  - Hens frequently overlap and have their feathers compressed either by the cage or other birds.
  - When victimized, birds have no areas to escape to and avoid feather pecking.
- Nesting
  - Under natural conditions, hens place a greater importance on gaining access to a discrete nest site than gaining access to food.
    - This frustration manifests itself through various behaviours, including feather pecking and has been concluded to cause acute pain in egg-laying hens.
- Flooring
  - Battery cages have slanted wire floors.
    - The slope ensures that a laid egg will roll into the collection tray.
    - The wire floors allow hen feces to pass through the floor onto a conveyor belt below to be removed. In stacked cages, feces can fall onto the hens below.
  - Wire floors are responsible for some foot ailments seen in hens such as lesions, fissures and hyperkeratosis.

References:
Foraging
- Under natural conditions, fowl spend most of their daytime hours foraging for food.
- Bantam hens were observed making over 14,000 pecks at the ground over a 10 hour period while foraging.
- When deprived of litter, hens often redirect some of their ground-pecking toward the feathers of other hens.
- Instead of foraging, battery hens are allocated 10 cm per bird of feeding space in a trough outside their cage, accessed only by pushing their heads through metal bars.
  - 10 cm of feeding space is inadequate and may result in aggression and cannibalism if access to food were somehow limited.

Feather pecking
- This is often a result of genetic and environmental factors, and a frustration response to behavioural restrictions such as crowding or lack of ability to nest, perch or forage naturally.
- Open wounds caused by pecking are vulnerable to infection and can trigger a cannibalistic response in other hens.
  - Cannibalism is a major cause of death in battery operations.

Physical Ailments
Feathers
- Feathers are important for thermoregulation and protection from injury in birds.
- Most feather loss is due to feather pecking, with some loss due to abrasion.
- The skin of birds is highly sensitive and delicate, so slight abrasions can lead to excessive bleeding.
- Extensive feather loss usually indicates major physiological or behavioural stress, and can greatly increase the danger of injury to exposed skin.

Feet
- Foot and claw damage is a major problem in battery-caged hens.
- Examples include lesions, fissures, hyperkeratosis on the feet and twisted, broken or overgrown claws.

Bones
- Confinement in battery cages has been shown to significantly reduce bone strength in hens.
- Hens must be able to move normally to maintain proper bone strength. This is impossible in battery cages.
  - Low bone strength is common in spent hens from cages, with 30 to 50% of birds suffering broken bones during catching, handling and transportation.
- Hens are susceptible to structural bone osteoporosis due to their high egg production.
  - In one study, 80 to 90% of battery-caged birds had osteoporosis.

Industry Practices
Debeaking
- To control outbreaks of feather pecking and cannibalism, many chickens are debeaked using a hot blade or laser shortly after hatching.
- A chicken’s beak is highly innervated and used for various functions including foraging, preening and defence.
  - When the beak is damaged, chronic pain results.

Forced moulting
- “Moulting” is a natural process that usually takes 16 weeks.
  - Under natural conditions, hens stop laying and shed their feathers in the fall.
  - When their feathers have re-grown, the hens begin laying eggs again.
- Forced moulting is a procedure where hens are shocked into an extra laying session after their normal cycle is completed.
  - This is done by depriving the hens of food, light and stimuli for up to 12 days and water for three days, causing a change in hormone levels that quickly ends the laying cycle.
  - The shock of these changes forces hens into a moulting where old feathers are pushed out.
  - When this is complete and feathers have started to regrow, a new laying cycle begins.
- Forced moulting shortens a normal moulting period from 16 weeks to eight, and is traumatic to hens, causing severe stress and suffering, susceptibility to disease and mortality.
- Despite being banned in most of Europe, forced moulting is still legal in Canada when done following procedures of the Commercial Moult Programme.

References: