

Ekka

ROYAL QUEENSLAND SHOW

PROJECT WORKBOOK

RAISING HYLINE HENS COMPETITION



Secondary

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COMPETITION OVERVIEW

Raising Hy-Line Hens

This competition allows students to gain insight into the cycle of life by raising their own laying hens. The Ekka has partnered with Specialised Breeders Australia to provide schools with six ten-week old Hy-Line Brown hens. Schools submit their three best hens to take to the Ekka, with the competition consisting of three main elements: Birds, Eggs & Project.

A worksheet is provided as a guideline for students to complete or they can create their own record of performance. The best project will be selected based on the following criteria:

- Students have recorded the chickens' development from when they are received by the school through to the Ekka including weights, feed used, eggs collected, health problems and other points of interest
- Project includes photos and/or diagrams of the chickens and their enclosure set-up
- Some research into poultry is shown - eg industry information, breed information, investigation into nutrition, health and welfare and how this knowledge has been incorporated into caring for the birds
- The information is related in a clear and concise manner, as expected for scientific reporting
- The project can be completed in a book, poster form or similar format, with preference given to those who go beyond fact recording and design a project portfolio
- The project should highlight the school's interest in poultry and pride in their work



IMPORTANT CONTACTS

Competition Enquiries

entries@rma.org.au

Education Content Enquiries

education@ekka.com.au

Ekka School & Group Bookings Enquiries

groupbookings@ekka.com.au





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Competition Entry Details

Your School: _____

Hatch Date: _____

Date of Collection: _____

Average Weight of Hens upon collection: _____

Helpful Link to Hy-Line Brown Information, [find here](#)





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Description of Environment

Before your chickens arrive, ensure their enclosure is fully sanitised before setting it up with the following items:

- Bedding such as sawdust
- Clean food in an appropriate holder
- Clean water in an appropriate system

In the following section, please describe the environment you have set up to house your hens, including the perches, litter and nesting that is utilised by the hens. Additional photos taken by the class and illustrations drawn by students are always encouraged.





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Description of Environment

How did you provide a consistent environment for the hens? Did you consider how you could make the environment more sustainable?

Why is it important to consider the space that houses the hens? Does this provide any benefits to the health of the hens or quality of the eggs?

When checking on your chickens, ensure students are washing their hands before and after handling the animals or touching anything in the area where they live and roam. Contact with live poultry, such as your Hy-Line Hens, can be a source of human salmonella infections even when the animals appear healthy and clean. However, this can be easily managed by washing hands with soap and water or using hand sanitiser until you are able to wash your hands.

Why should students avoid snuggling or kissing the hens?





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Animal Health

The health of your animals is crucial, which is why students should look out for any changes in diet, feathers, and faeces. You will receive Hy-Line Hens that have been vaccinated by our breeders which should protect them from a number of parasites and diseases. If diet or water intake decreases, students should look out for worms in the hen's faeces or mites hiding in between the feathers of the hens.

Diatomaceous Earth is a natural and easy remedy for chickens that are experiencing parasite issues.

Complete a SWOT analysis with the class regarding Diatomaceous Earth as a possible remedy for your hens. You can utilise the following article as a resource to support your evaluation.

<https://www.backyardchickencoops.com.au/blogs/learning-centre/diatomaceous-earth-a-natural-remedy-for-troubled-chickens>

Strengths

Weaknesses

Opportunities

Threats



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Nutritional Information

Hy-line Brown Hens require a well-structured nutritional program to ensure they achieve development and growth targets to reach 'egg-laying' maturity at the appropriate age.

There are a large number of poultry nutrition companies across Australia that provide balanced mash/crumble/pellet/scratch rations to be fed at all stages of your hens' development.

These feed rations are often identified by an age range including 'starter,' 'grower' or 'layer' etc and most will provide adequate nutrition to your hens. There is much research into pelleted versus whole grain feeding, but for the purpose of this competition it will be your personal preference as to the feed type chosen.

By ensuring your feed ration has adequate protein, energy, amino acids, vitamins and minerals (using the table below as a reference), your hens should be healthy, happy and ready for egg production.

<i>Requirement (age/weeks)</i>	<i>Starter (0-6 weeks)</i>	<i>Grower (6-12 weeks)</i>	<i>Developer (12-15 weeks)</i>	<i>Pre-Layer (15 weeks - POL)</i>	<i>Early Lay (POL - 50 weeks)</i>
<i>Feed to a body weight of (g) - Cage reared</i>	500	1170	1370	1490	
<i>Feed to a body weight of (g) - Floor reared</i>	480	1050	1290	1430	
<i>Age (weeks) approximate</i>	0-6	7-12	13-15	16-17	18-50
<i>Metabolisable energy kcal/kg</i>	2900	2850	2750	2775	2800
<i>Metabolisable energy mj/kg</i>	12.14	11.93	11.51	11.61	11.72
<i>Crude protein (nitrogen x 6.25), %</i>	19.5	17	16	16.5	17.9
<i>Calcium %</i>	1	1	1.4	2.5	4.2
<i>Phosphorus (available) %</i>	0.45	0.43	0.45	0.48	0.46
<i>Crude fibre %</i>					3





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Nutritional Program

In the following section, please describe the feed types that were used for the hens and why?

Your class should monitor the feed and water intake of your hens. There are several ways to collate the monitored data and present your results. Students may like to take physical notes on paper and a clipboard or input data directly into a shared online document. You can utilise this data later in the project to highlight trends in the raising of your hens and their production of eggs.

Be aware that chickens cannot lay good quality eggs on a poor-quality diet. Feed your birds good quality, well-balanced pellets or feed from a reputable supplier, rather than kitchen scraps from your leftovers. The nutritional state of your birds will influence their resistance to common disease-causing agents, including viruses, bacteria, and parasites.

Why do you think hens should not have a diet that is solely kitchen scraps, like fruit and vegetables?

What are some of the foods that you should never feed your chickens and why?





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Nutritional Program

Hy-Line Brown Hens have a long history of genetic innovation in Australia which has developed a breed of chicken with many advantages for raising and laying.

Through small group research in class, collate and list the advantages and disadvantages of the Hy-Line Brown breed.

Advantages

Disadvantages

<i>Advantages</i>	<i>Disadvantages</i>

Helpful Links:

Poultry Hub Australia – Poultry Nutrient Requirement Information can be [found here](#)



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Feed Consumption Calculations

Each week, schedule a visit to the chickens with the whole class and allocate a few students to weigh the hens and calculate the total feed the hens have consumed during that week. Back in the classroom, complete the calculations below to identify the average weight of the hens and the feed conversion ratio.

<i>Age</i>	<i>Survivability %</i>	<i>Average Weight</i>	<i>Feed Consumption</i>	<i>Feed Consumption Ratio</i>
Arrival				
10 Weeks				
11 Weeks				
12 Weeks				
13 Weeks				
14 Weeks				
15 Weeks				
16 Weeks				
17 Weeks				
18 Weeks				
19 Weeks				
20 Weeks				
21 Weeks				
22 Weeks				
23 Weeks				
24 Weeks				
25 Weeks				
Ekka				
26 Weeks				





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Feed Consumption Calculations

Calculations for Table:

- a) $\text{Survivability \%} = (\text{Number of Chickens Received} - \text{Total Mortality}) \times 10$
- b) $\text{Average Weight} = \text{Total Body Weight} / \text{Number of Chickens}$
- c) $\text{Feed Conversion Ratio} = \text{Total Feed Used per week} / \text{Total Body Weight}$

Using your data from above, create graphs that outline your hen's growth, feed consumption, water intake and egg production.





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Feed Consumption

Describe any trends you can identify in your data.

Identify any anomalies in your data and the reasoning for this data.

Did you encounter any issues with you Hy-Line Hens? If so, what were the problems? Could you discover any solutions?

If you participated in the Raising Hy-Line Hens competition in the future, what changes would you make to improve your data, health of your hens or egg production levels?



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Learning Opportunities

The Raising Hy-Line Hens Project also provides students with the opportunity to present what they have learnt about their hens, in a fun, creative way. As a class, you may like to demonstrate your new understanding of hens and eggs by presenting illustrations, paintings, paper sculptures or other modes of visual arts.

You may like to focus on the themes from your curriculum aligned Australian Eggs lesson plans and interactive activities, such as jobs on the farm, life cycles, parts of an egg or hen, health of chickens and their habitats. This opportunity is strongly encouraged and provides our judges with an insight into the educational elements of your involvement in the competition as well as the student's enjoyment of raising their Hy-Line Hens.

The following is a wonderful example from Bowenville State School!





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Ekka's tips for Raising your Hy-Line Hens

- Handle the hens with care
- Check the weight of the hens weekly
- Wash hands thoroughly before and after interaction with the hens to prevent the spread of disease
- Clear the area around the poultry house to prevent hiding places for rodents/snakes and remove all rubbish
- Wash and disinfect the poultry house and equipment
- Check compatibility of feed and water systems with your hens
- Ensure that hens are kept cool in the summer months, warm in the cooler months
- Monitor feed consumption and water intake and investigate any discrepancies
- Consider perches to improve body weight, uniformity, reduce social pressure and increase muscle development
- Regularly socialise the hens and get them used to people
- Check to ensure no external parasites are present on the bird's feathers or worms in their faeces
- Ensure the birds have access to water at all times
- Protect birds from predators by developing a safe and secure environment



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*Join schools from across the state bringing
learning to life through the Ekka experience.*



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INTERNATIONAL AWARD WINNERS

The Royal Queensland Show (Ekka) is recognised for its excellence, over many years, by winning numerous awards at the International Fairs & Expos (IAFE) Awards.

IAFE has more than 1,000 members representing agricultural fairs from the United States, Canada, the United Kingdom, and Australia.

These awards represent the continued dedication the Ekka plays in bridging the country city divide, and educating the next generation on the essential role farming and agriculture plays in their everyday lives.



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