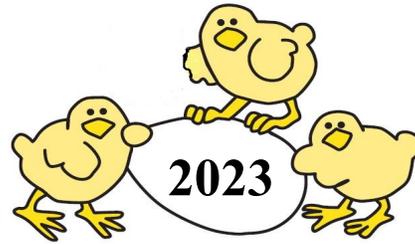


POULTRY

Allen County 4-H

Due May 31 in the Extension Office



\$1.00

Level 3 – Grades 9 & up

What you will do in this project:

- Enroll in the 4-H program by January 15.
- Complete the project by answering at least two of the activities in this activity sheet and turning it into the Extension Office **by May 31, 2023** or earlier. This activity sheet consists of activities, and a record sheet.
- Attend County 4-H Poultry workshops when offered.
- Refer to the Allen County 4-H Rules Book for a complete listing of all regulations concerning this project.
- You can exhibit in all 9 Classes that are offered, no more than 2 pens per class.
- You may exhibit a Poultry Education poster in addition to the birds.
- All birds must be in your possession by May 15 with the exception of broilers that are hatched at the end of May.
- Complete FairEntry online by May 19, 2023.
- To exhibit beef cattle, dairy cattle, swine, sheep, meat goats, dairy goats, poultry and rabbits, 4-H members must be certified through the Youth for the Quality Care of Animals program. This is an annual program that can be completed via online modules or in-person trainings. For more information about in-person trainings in your county, please contact your County Extension Office. More information about YQCA is available at <http://yqca.org/>. **Attach a copy of YQCA card.**

Management Tips:

- Provide clean, freshwater to your birds at all times. In the winter, warm (but not hot) water will be needed. Birds on average will drink 1-2 cups a day. Check their water at least twice a day – more often on hot days.
- One chicken eats about 2 pounds of feed each week. 12 chickens eating two pounds a week would eat 24 pounds week. (12 birds x 2 lbs = 24 lbs)
- A feed ration of at least 16% protein for the mature chicken is needed.
- Put at least a 4 inch layer of bedding on the floor for your birds and keep dry. Spread fresh bedding on the top. Clean area completely at least once a year with a solution of 2 tablespoons of chlorine bleach into 2 gallons of boiling water. Scrub with a broom. Ventilate well to dry.
- Birds should be washed before bringing to the fair with a solution of warm water and 2 table spoons of chlorine bleach in a five gallon bucket.

4-H Member: _____ 4-H Club: _____

Grade in School (January 1, 2023) _____ Years in this project _____

Signature of 4-H Member verifying that you have completed these activities:

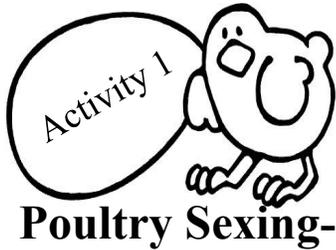
Signature of Parent that you have reviewed this information:

4-H Animal Care:

The Indiana 4-H program strongly supports positive animal care and strongly opposes animal abuse. 4-H is also dedicated to the mission of developing youth and volunteers through “Learning by Doing” programs.

4-H livestock projects teach life skills such as acquiring knowledge, making decisions, and applying leadership skills.

- When working and caring for animals, it is important to insure that appropriate safety measures are in place for both the animals and the persons who care for them. Therefore, there is no substitute for knowledge, common sense, and experience.
- Animal handlers should study and learn to anticipate an animal’s reaction and try and avoid problem situations. It is most important that 4-H members understand an animal’s behavior so one can “outsmart” not “out-muscle” an animal. Foremost in the 4-H’er mind should always be safety of the handler and the animal. Moving animals is more of an art than a science. Movement of animals requires planning and knowledge to accomplish it with the least amount of time, effort and stress to the animal.
- An animal’s good health is often directly related to the environmental factors associated with its living space. The presence of predators, dust, odors, pests, temperature, and humidity has a direct effect on an animal’s well-being.
- Animals react favorably to daily care and comfortable housing. Consideration should also be given to specific animal needs such as size of their housing space, lighting, and ventilation. The best facilities and equipment cannot and should not be a substitute for daily observation and careful attention to signs of illness, injury, and/or unusual behavior.
- Frequent consultation with your veterinarian is a must. Reasonable attention must always be given to the use of drugs and their approved withdrawal times.



Various methods have been developed to determine sex of both day-old and adult poultry. Sex of day-old chickens, turkeys, ducks, geese and guineas can be determined by these methods.

Japanese Vent Sexing. This method involves visual examination of the sex organ in the vent of the day-old bird. Structural differences between the male and female allows accurate determination of the bird's sex. This method requires considerable practice to develop speed and accuracy. An

experienced sexor can sex 400 to 600 birds an hour. This method is primarily used for turkeys.

Autosexing. The genetic code which determines what a bird looks like is carried on chromosomes. One chromosome carries the gene which determines the sex of the bird. This same chromosome carries other genes which result in differences in feather color, size, etc., based on the sex of the bird. Some of these differences appear in day-old chicks. For instance, day-old, barred male chicks have completely black down except for a white spot on top of the head, while the non-barred females have all black down. This method is used most in gamebirds and exotic fowl.

The sex of mature birds can usually be determined visually by observing differences in their secondary sex characteristics. As birds near the age of sexual maturity, their gonads (ovary in the female and testes in the male) increase the output of the male sex hormone **testosterone**. This hormone causes development of visual external physical characteristics that can be used to determine the sex of sexually mature birds.

In **chickens**, the comb and wattles become bright red. Normally, the cockerel's comb and wattles are larger than the pullet's because of a higher blood level of testosterone. When the gonads of a chicken are inactive, such as during molting, the comb and wattles regress in size and lose their red color from a lower blood level of the hormone. Another influence of testosterone in the cockerel is development of male feathering on the hackles, back and tail. The feathers of the male are elongated with pointed tips while those of the female are short with rounded tips. Another characteristic of cockerels is they crow.

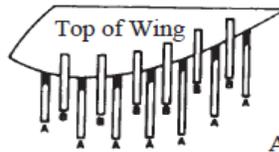
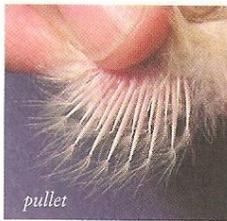
An adult male turkey (**tom**) has a more developed and a brighter colored **snood** and **caruncle** than the **hen**. Also, the tom usually has a tuft of coarse hair on its breasts called the **beard**.

Adult waterfowl are difficult to sex except those breeds of ducks, such as the Rouen and Mallard, in which the male (**drake**) has more brightly colored plumage than the female (**duck**). In Pilgrim geese, the male (**gander**) is white-feathered and the female (**goose**) is gray-feathered. In most breeds of ducks, the tips of the middle tail feathers on the adult drake curl forward. This does not occur on the duck. Sex of the adult goose can be determined by visual examination of the sex organ in the vent of the bird. The organ is much more developed in the gander than the goose.

Sexing adult **guineas** is very difficult because they differ so little in appearance. Usually, sex may be distinguished by the difference in the cry of the birds, and by the larger helmet, thicker wattles, and coarser head of the male. The cry of the female sounds like "buckwheat" or "put-rock," and is quite different from the one syllable shriek of the male.

With a few exceptions, adult male chickens, turkeys, waterfowl and guineas have a larger body size than the female. The sex of some breeds of mature chickens is easy to tell because the male has more brilliant colored plumage than the female. The Rhode Island Red, New Hampshire Red, and Brown Leghorn are examples of this characteristic.

Feather Sexing. This is the most common method used for chickens and involves the following steps:



Females
Coverts always shorter than primaries

At hatching all feathers short but coverts extend only $\frac{1}{2}$ to $\frac{3}{4}$ length of primaries.



After several hours feathers longer but coverts still $\frac{1}{2}$ to $\frac{3}{4}$ length of primaries.



Males
Coverts always as long as or longer than primaries

Coverts and primaries extend same length.



Coverts extend slightly beyond primaries.



Coverts extend greatly beyond primaries.



1. Spread wing out like a fan.
2. Look at feathers on outer joint—bottom row of feathers are primaries, top row of feathers are coverts.
3. When the bottom row (primaries) of feathers is longer than top row (coverts), the chick is a female.
4. When the bottom row (primaries) of feathers is the same length, or shorter than top row (coverts), the chick is a male.

Certain breeds or crosses may be difficult to sex using this method.

Share:

1. What are two methods to determine the sex of day-old poultry?
2. What are some of the physical secondary sex characteristics of adult poultry?
3. What species of poultry exhibit secondary sex characteristics that are more difficult to recognize? Why?
4. Why is it important to divide poultry species by sex?
5. What management or feeding practices are affected by the sex of the bird? Why?
6. What other industries treat animal or bird species differently? (Consider economics, health, safety, etc.)



Prevention of Poultry Disease

An adequate disease prevention program is essential to a profitable commercial poultry operation. Chronic diseases can reduce efficiency and increase costs. Although a disease prevention program may not show immediate returns on the investment, it will be profitable in the long term.

Sources of disease

- Humans, whether as visitors, neighbors or farm workers, can be a major source of disease transmission. Carriers can include employees who work on several poultry farms and equipment that moves between farms.
- Poultry brought to the farm can carry infectious diseases. Day-old chicks or poults, pet birds, replacement pullets, cull- or sick pen birds, or birds of different ages or species are all possible sources of contamination. Wild birds may carry and transmit diseases to commercial poultry flocks. Certain diseases, such as salmonella and coliforms, may be transmitted from the dam to the offspring through the egg.
- Poor sanitation also can cause disease problems. Once a site is contaminated, carryover from previously infected flocks may become a reoccurring problem.
- Disease outbreaks are influenced by the general condition of the flock. Conditions caused by poor management can reduce the flock's resistance to infection.

Disease prevention

Proper security measures can greatly reduce the chance of disease outbreaks. Use disinfectant foot baths or wear plastic foot-coverings when entering buildings. Change foot baths often to keep them effective. If you use equipment for more than one flock, wash and disinfect it before introducing another flock or using it in another building.

Only bring in poultry from disease-free flocks. Secure your facilities from wild birds. Don't keep pet birds on the premises, and avoid contact with other flocks.

Practice "all in, all out" with flocks whenever possible. Thorough cleaning and disinfecting between flocks will help reduce outbreaks. Include a period of down time (two weeks minimum) in your flock schedule. Removal of built-up litter may be necessary if a disease outbreak has occurred.

To prevent spread of disease, control rodents and insects, keep buildings clean and dispose of dead birds. Clean and disinfect the facilities in the following manner:

- Remove all birds from the building. Clean out the old feed and remove all movable equipment.
- Hose the ceilings and walls before removing litter. Dispose of litter as far from the house as possible.
- Clean equipment and all items to be reused and repair building if needed.
- Wash the house thoroughly with a high-pressure wash to remove all manure deposits.
- Disinfect with a water-soluble compound such as quaternary ammonia, phenol compound, iodophor, coal-tar or a chlorine disinfectant.
- Apply an insecticide approved for poultry use.
- Replace the litter and return equipment.
- Lock the building and let it stand empty for two to four weeks.

Maintain proper management techniques that do not stress the birds. Good ventilation, dry litter and proper temperatures will provide conditions conducive to good health.

Follow an approved vaccination program.

There are three different types of diseases.

Respiratory Diseases

There are many common and important diseases which can affect the respiratory system (air passages, lungs, air sacs) of poultry. Poultry refers to birds that people keep for their use and generally includes the chicken, turkey, duck, goose, quail, pheasant, pigeon, guinea fowl, pea fowl, ostrich, emu and rhea. Due to modern systems of management, usually with high poultry densities, these diseases are able to readily spread.

Fowl Pox

Synonyms: chicken pox (not to be confused with chicken pox in humans; the human disease does not affect poultry and vice versa), sore head, avian diphtheria, bird pox

Species affected: Most poultry -- chickens, turkeys, pheasants, quail, ducks, psittacine, and ratites -- of all ages are susceptible.

Clinical signs: There are two forms of fowl pox. The dry form is characterized by raised, wart-like lesions on unfeathered areas (head, legs, vent, etc.). The lesions heal in about 2 weeks. If the scab is removed before healing is complete, the surface beneath is raw and bleeding. Unthriftiness and retarded growth are typical symptoms of fowl pox. In laying hens, infection results in a transient decline in egg production.

In the wet form there are canker-like lesions in the mouth, pharynx, larynx, and trachea. The wet form may cause respiratory distress by obstructing the upper air passages. Chickens may be affected with either or both forms of fowl pox at one time.

Transmission: Fowl pox is transmitted by direct contact between infected and susceptible birds or by mosquitos. Virus-containing scabs also can be sloughed from affected birds and serve as a source of infection. The virus can enter the blood stream through the eye, skin wounds, or respiratory tract. Mosquitos become infected from feeding on birds with fowl pox in their blood stream. There is some evidence that the mosquito remains infective for life. Mosquitos are the primary reservoir and spreaders of fowl pox on poultry ranges. Several species of mosquito can transmit fowl pox. Often mosquitos winter-over in poultry houses so, outbreaks can occur during winter and early spring.

Treatment: No treatment is available. However, fowl pox is relatively slow-spreading. Thus, it is possible to vaccinate to stop an outbreak. The wing-web vaccination method is used for chickens and the thigh-stick method for turkeys older than 8 weeks.

Prevention: Fowl pox outbreaks in poultry confined to houses can be controlled by spraying to kill mosquitos. However, if fowl pox is endemic in the area, vaccination is recommended. Do not vaccinate unless the disease becomes a problem on a farm or in the area. Refer to the publication PS-36 (Vaccination of Small Poultry Flocks) for more information on fowl pox vaccinations.

Newcastle Disease

Synonyms: pneumoencephalitis

The highly contagious and lethal form of Newcastle disease is known as viscerotropic (attacks the internal organs) velogenic Newcastle disease, VVND, exotic Newcastle disease, or Asiatic Newcastle disease. VVND is not present in the United States poultry industry at this time.

Species affected: Newcastle disease affects all birds of all ages. Humans and other mammals are also susceptible to Newcastle. In such species, it causes a mild conjunctivitis.

Clinical signs: There are three forms of Newcastle disease -- mildly pathogenic (lentogenic), moderately pathogenic (mesogenic) and highly pathogenic (velogenic). Newcastle disease is characterized by a sudden onset of clinical signs which include hoarse chirps (in chicks), watery discharge from nostrils, labored breathing (gasping), facial swelling, paralysis, trembling, and twisting of the neck (sign of central nervous system involvement). Mortality ranges from 10 to 80 percent depending on the pathogenicity. In adult laying birds, symptoms can include decreased feed and water consumption and a dramatic drop in egg production.

Transmission: The Newcastle virus can be transmitted short distances by the airborne route or introduced on contaminated shoes, caretakers, feed deliverers, visitors, tires, dirty equipment, feed sacks, crates, and wild birds. Newcastle virus can be passed in the egg, but Newcastle-infected embryos die before hatching. In live birds, the virus is shed in body fluids, secretions, excreta, and breath.

Treatment: There is no specific treatment for Newcastle disease. Antibiotics can be given for 3-5 days to prevent secondary bacterial infections (particularly *E. coli*). For chicks, increasing the brooding temperature 5°F may help reduce losses.

Prevention: Prevention programs should include vaccination (see publication PS-36, Vaccination of Small Poultry Flocks), good sanitation, and implementation of a comprehensive biosecurity program.

Viral Diseases (nonrespiratory)

Marek's Disease

Synonyms: acute leukosis, neural leukosis, range paralysis, gray eye (when eye affected)

Species affected: Chickens between 12 to 25 weeks of age are most commonly clinically affected. Occasionally pheasants, quail, game fowl and turkeys can be infected.

Clinical signs: Marek's disease is a type of avian cancer. Tumors in nerves cause lameness and paralysis. Tumors can occur in the eyes and cause irregularly shaped pupils and blindness. Tumors of the liver, kidney, spleen, gonads, pancreas, proventriculus, lungs, muscles, and skin can cause incoordination, unthriftiness, paleness, weak labored breathing, and enlarged feather follicles. In terminal stages, the birds are emaciated with pale, scaly combs and greenish diarrhea.

Marek's disease is very similar to Lymphoid Leukosis, but Marek's usually occurs in chickens 12 to 25 weeks of age and Lymphoid Leukosis usually starts at 16 weeks of age.

Transmission: The Marek's virus is transmitted by air within the poultry house. It is in the feather dander, chicken house dust, feces and saliva. Infected birds carry the virus in their blood for life and are a source of infection for susceptible birds.

Treatment: none

Prevention: Chicks can be vaccinated at the hatchery. While the vaccination prevents tumor formation, it does not prevent infection by the virus.

Lymphoid Leukosis

Synonyms: visceral leukosis, leukosis, big liver, LL

Species affected: Although primarily a disease of chickens, lymphoid leukosis can infect turkeys, guinea fowl, pheasants, and doves, but not on a large scale.

Clinical signs: The virus involved has a long incubation period (4 months or longer). As a result, clinical signs are not noticeable until the birds are 16 weeks or older. Affected birds become progressively weaker and emaciated. There is regression of the comb. The abdomen becomes enlarged. Greenish diarrhea develops in terminal stages.

Transmission: The virus is transmitted through the egg to offspring. Within a flock, it is spread by bird-to-bird contact and by contact with contaminated environments. The virus is not spread by air. Infected chicken are carriers for life.

Treatment: none

Prevention: The virus is present in the yolk and egg white of eggs from infected hens. Most national and international layer breeders have eradicated lymphoid leukosis from their flocks. Most commercial chicks are lymphoid-leukosis negative because they are hatched from LL-free breeders. The disease is still common in broiler breeder flocks.

Avian Encephalomyelitis

Synonyms: epidemic tremor, AE

Species affected: The disease is most prevalent in chickens less than 6 weeks of age. Pheasants, cornish quail, and turkeys are natural hosts as well, but less susceptible than chickens. Ducklings, young pigeons, and guinea fowl can be experimentally infected.

Clinical signs: Signs commonly appear during the first week of life and between the second and third weeks. Affected chicks may first show a dull expression of the eyes, followed by progressive incoordination, sitting on hocks, tremors of the head and neck, and finally paralysis or prostration. Affected chicks are inactive. Some may refuse to walk or will walk on their hocks. In advanced cases, many chicks will lie with both feet out to one side (prostrate) and die. All stages (dullness, tremors, prostration) can usually be seen in an affected flock. Feed and water consumption decreases and the birds lose weight. In adult birds, a transitory drop (5-20 percent) in egg production may be the only clinical sign present. However, in breeding flocks, a corresponding decrease in hatchability is also noted as the virus is egg-transmitted until hens develop immunity. Chickens which survive the clinical disease may develop cataracts later in life (see Table 2).

Transmission: The virus can be transmitted through the egg from infected hen to chick, accounting for disease during the first week of life. The disease can also be spread through a flock by direct contact of susceptible hatchlings with infected birds, accounting for the disease at 2-3 weeks of age. Indirect spread can occur through fecal contamination of feed and water. Recovered birds are immune and do not spread the virus.

Treatment: There is no treatment for outbreaks. Infected birds should be removed, killed and incinerated. Recovered chicks are unthrifty.

Prevention: A vaccine is available.

Nonrespiratory Bacterial Diseases

Fowl Cholera

Synonyms: avian pasteurellosis, cholera, avian hemorrhagic septicemia.

Species affected: Domestic fowl of all species (primarily turkeys and chickens), game birds (especially pheasants and ducks), cage birds, wild birds, and birds in zoological collections and aviaries are susceptible.

Clinical signs: Fowl cholera usually strikes birds older than 6 weeks of age. In acute outbreaks, dead birds may be the first sign. Fever, reduced feed consumption, mucoid discharge from the mouth, ruffled feathers, diarrhea, and labored breathing may be seen. As the disease progresses birds lose weight, become lame from joint infections, and develop rattling noises from exudate in air passages. As fowl cholera becomes chronic, chickens develop abscessed wattles and swollen joints and foot pads. Caseous exudate may form in the sinuses around the eyes. Turkeys may have twisted necks.

Transmission: Multiple means of transmission have been demonstrated. Flock additions, free-flying birds, infected premises, predators, and rodents are all possibilities.

Treatment: A flock can be medicated with a sulfa drug (sulfonamides, especially sulfadimethoxine, sulfamethazine, and sulfaquinolone) or vaccinated, or both, to stop mortality associated with an outbreak. It must be noted, however, that sulfa drugs are not FDA approved for use in pullets older than 14 weeks or for commercial laying hens. Sulfa drugs leave residues in meat and eggs. Antibiotics can be used, but require higher levels and long term medication to stop the outbreak.

Prevention: On fowl cholera endemic farms, vaccination is advisable. Do not vaccinate for fowl cholera unless you have a problem on the farm. Rodent control is essential to prevent future outbreaks.

Omphalitis

Synonyms: navel ill, mushy chick disease

Species affected: chickens

Clinical signs: Affected chicks may have external navel infection, large unabsorbed yolk sacs, peritonitis with fetid odor, exudates adhering to the navel, edema of the skin of ventral body area, septicemia and dehydration.

Transmission: Infection occurs at the time of hatching or shortly thereafter, before navels are healed. Chicks from dirty hatching eggs or eggs with poor quality shells, or newly hatched chicks placed in dirty holding boxes, are most susceptible. Chicks removed prior to complete healing of the navel due to improper temperature and/or humidity are also more susceptible. Eggs that explode in the hatching tray contaminate other eggs in the tray and increase the incidence.

Treatment: There is no specific treatment for omphalitis. Most affected birds die in the first few days of life. Unaffected birds need no medication.

Prevention: Control is by prevention through effective hatchery sanitation, hatchery procedures, breeder flock surveillance, and proper preincubation handling of eggs. Mushy chicks should be culled from the hatch and destroyed. If chick mortality exceeds 3 percent, the breeder flocks and egg handling and hatching procedures should be reviewed.

Pullorum

Synonyms: bacillary white diarrhea, BWD

Species affected: Chickens and turkeys are most susceptible, although other species of birds can become infected. Pullorum has never been a problem in commercially grown game birds such as pheasant, chukar partridge and quail. Infection in mammals is rare.

Clinical signs: Death of infected chicks or poults begins at 5-7 days of age and peaks in another 4-5 days. Clinical signs including huddling, droopiness, diarrhea, weakness, pasted vent, gasping, and chalk-white feces, sometimes stained with green bile. Affected birds are unthrifty and stunted because they do not eat. Survivors become asymptomatic carriers with localized infection in the ovary.

Transmission: Pullorum is spread primarily through the egg, from hen to chick. It can spread further by contaminated incubators, hatchers, chick boxes, houses, equipment, poultry by-product feedstuffs and carrier birds.

Treatment: Treatment is for flock salvage only. Several sulfonamides, antibiotics, and antibacterials are effective in reducing mortality, but none eradicates the disease from the flock. Pullorum eradication is required by law. Eradication requires destroying the entire flock.

Prevention: Pullorum outbreaks are handled, on an eradication basis, by state/federal regulatory agencies. As part of the National Poultry Improvement Program, breeder replacement flocks are tested before onset of production to assure pullorum-free status. This mandatory law includes chickens, turkeys, show birds, waterfowl, game birds, and guinea fowl. In Florida, a negative pullorum test or certification that the bird originated from a pullorum-free flock is required for admission for exhibit at shows and fairs. Such requirements have been beneficial in locating pullorum-infected flocks of hobby chickens.

Share

How many different types of diseases and what are they?

What does it mean when they talk about all in, all out?

What is the proper way to clean your building?

List four ways that diseases are brought into a farm.

- 1.
- 2.
- 3.
- 4.

How would you implement a disease prevention program to your farm?



Did you ever wonder why things look the way they do? For example, why are some people tall and others are not? The answer to this and many other questions is GENETICS. Genetics is the study of genes and heredity. In this activity you will learn about the “magic” of genetics by investigating the inheritance of two different comb types.

Originality

FOWL FACTS:

Using the Punnett Square

To figure out the genotypes of the chicks, you can use a Punnett square. This is a method of using a square with a grid to figure all the possible combinations that a parent can give its offspring. Setting up the Punnett square:

<ol style="list-style-type: none"> 1. Draw a square 2. Draw two lines that will cut the box into quarters 3. Along the top of the square put one letter of the males' genotype above each quarter 4. Along the left side of the square do the same with the female. 	
<p>Using the Punnett square:</p> <ol style="list-style-type: none"> 1. Bring the dominant genes (all the capital letters) down or across 2. Fill in the recessive genes (small letters). 3. This will give all the possible genotypes of the offspring. You then can translate these genotypes into their phenotypes by determining if there is a dominant gene that will control the phenotype. 	

Genetics and Color

1. Black X White = 100% Splash
2. Black X Splash = 100% Blue
3. Blue X Black = 50% Black and 50% Blue
4. Blue X Splash = 50% Blue and 50% Splash
5. Blue X Blue = 25% Black, 50% Blue, and 25% Splash
6. Splash X Splash = 100% Splash

Take Off!

The rose comb is a dominant gene; we will call it “R”. The single comb is a recessive gene; we will call it “r”. Given the following nine combinations of genotypes (genetic makeup) that the parents have, figure out the possible genotypes and phenotypes (outward appearance) of each mating. The genotype of each parent has two letters, one they received from their father and one from their mother; the chicks will also receive one from each parent. The traditional way to write down the pairings is to put the female first.

Parents		Chicks	
♂ (cock)	♀ (hen)	%Genotype	100% Phenotype
1. RR (rose)	X RR (rose)	100% RR	100% Rose Comb
2. RR (rose)	X rr (single)		
3. Rr (rose)	X Rr (rose)		
4. RR (rose)	X Rr (rose)		
5. Rr (rose)	X rr (single)		
6. rr (single)	X rr (single)		
7. Rr (rose)	X RR (rose)		
8. rr (single)	X RR (rose)		
9. rr (single)	X Rr (rose)		

Crow about it

How did you determine the genotype and phenotype of each combination?

What system did you develop to keep track of the various combinations?

How does genotype determine phenotype?

In addition to genotype, what other factors may influence a phenotype such as height?

Why is it important for you to learn about poultry genetics?

How could you use what you learned to breed and select for a certain comb type in your flock?

In what other ways can you use the skills that you have gained from this activity in your everyday life?

Define the following:

Inbreeding: _____

Cross breeding: _____

Incrossing: _____

Strain crossing: _____

ALLEN COUNTY 4-H POULTRY RECORD



Records serve as a way to measure your own success with a project. When answering these questions, you should be able to see where improvements can be made for next year and if you wish to continue with this project for another year.

Commercial					
Class	Breed	Date Purchased	Number Purchased	Cost of Birds	Number of Birds Dead/Lost
Broiler					
Turkey					
White Egg Layer (Over 6 Months)					
Colored Egg Layer (Over 6 Months)					
White Egg Pullet (Under 6 Months)					
Colored Egg Pullet (Under 6 Months)					

Exhibition					
Class	Breed	Date Purchased	Number Purchased	Cost of Birds	Number of Birds Dead/Lost
Standard Exhibition					
Waterfowl					
Bantams					

List the equipment/housing arrangements needed for your project. Include feeding equipment, bedding, housing, grooming tools, etc. that you use to care for your animal(s).

Item	Approximate Value

List the items you feed to your animals. Include type of feed, quantity, costs		
Type of Food	Amount Fed	Expense - Value of Feed

List veterinary expenses you had with this project (vaccinations, illness, health certificates, etc.)

List three new things you have learned about raising birds.

- a. _____
- b. _____
- c. _____

What resources did you use to gain more information about your animals? (List people, magazines, newsletters, web sites, etc.)

Did you give a demonstration in your local 4-H Club? Yes _____ No _____ If yes, list the date given, title of demonstration and number of people present.

List any tours, workshops, clinics, etc you participated in relating to this project.

**You may exhibit in all ten classes offered
Two Pen per Class.**

**Educational Poster exhibit is due and judged on designated date in exhibit building. Watch the
Clover Chronicle for this date.**

***** Copy of Receipt Showing date of purchase MUST be attached to these pages
for Broilers, Pullets and Turkeys.***

I understand that the 4-H Livestock Committee may assign a specific location or pen for my animal(s). I understand that I may be subject to additional pen fees due upon time of unloading for my animals.

I further understand that to exhibit at the Allen County Fair is a privilege and that I must adhere to all rules and regulations set forth by the Indiana Board of Animal Health for Exhibition, by the Purdue Extension Service 4-H Youth Development program and the Allen County 4-H Clubs, Incorporated.

4-H Member Signature: _____ Date: _____

____ Completed v2.4online enrollment by January 15, 2023

____ Completed Fair Entry on line by May 19, 2023

____ Copy of YQCA Certificate attached