Handraising Cockatiels

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One of my passions is the handraising of Cockatiel chicks. There is so much more to breeding, handfeeding, weaning and socializing than the daily feeding schedule. Cockatiel chicks need love, affection, and the complete attention of the surrogate parent.

Handfed Cockatiel chicks are some of the sweetest, most affectionate, birds that one can have the privilege of raising. There is nothing quite like a handfed Cockatiel chick imprinted on human beings and with no greater desire than to be part of their human flock. In an effort to explain what is needed to successfully raise cockatiel chicks I will try to cover some of the most important points.

An excellent diet is a requirement for successfully breeding cockatiels. Calcium is an important mineral that must be supplied in the diet for an egg laying hen. If the calcium level within the blood drops below normal while the egg is in the uterus (shell gland) the calcium that is needed is taken from the hen's bones. Inadequate calcium may lead to uterine inertia resulting in egg binding. All that is needed by the embryo must be supplied in the egg while it is being formed inside the hen. The embryo needs calcium for its metabolic functions within the egg. Calcium is also needed for muscle contractions. A deficiency in calcium may result in late hatch or death of the embryo.

The age of the parent birds is critical to successfully breeding cockatiels. Young birds have difficulty with reduced hatchability which is likely to be caused by the hen's immature reproductive tract. Inexperience and behavior problems may affect the breeding success of very young parents. The male should be at least one year old, but it is better if the bird is 15-18 months. An egg laying hen needs to be two years old. Before the age of two she needs her calcium reserves for the building of her own skeleton. With breeding, the calcium resources are drained because of the demands of shelling eggs.

The parents must receive an optimal diet in order to breed successfully. Diets that are inadequate in vitamins and minerals result in a hen that does not ovulate. The quality and quantity of food must support growth and maintain all the metabolic functions of the breeding birds. Once chicks hatch, the amount of food fed daily should be increased as the parents will need enough food for themselves and their chicks. Reproduction is a stressor which increases the need for nutrition.

Incubation and Nesting

Cockatiels are influenced by the photoperiod. The lengthening of daylight hours is a stimulus of gonadal growth in the male as well as a hormonal trigger for the hen which results in ovulation. Other breeding triggers are the presence of a nest box which will also stimulate a rise in the sex hormones of both birds. The quality and quantity of the food available is another stimulus. An increase in the number of showers the birds receive will help to trigger breeding activity in much the same way as spring rains do in the wild.

Normally a hen will lay a clutch of 4-6 eggs. She will incubate them for 18-21 days. During this time she normally does not lay more eggs. A hen may double clutch after her first set of chicks leave the nest. It is not recommended that a pair be allowed to produce more than two clutches in a breeding season. Many hens will replace eggs that are broken or removed from the nest box. During egg laying there is an enormous drain on her calcium reserves and she needs time to rest from breeding activities. During rest periods, the diet should be optimimal so that the hen will be in good breeding condition for the next season.

Cockatiel pairs share parental duties. The male sits on the eggs during the day, and the hen incubates the eggs at night. When the time approaches for the eggs to hatch the pair will divide the clutch and sit together. At this time you rarely see the parent birds except for short periods out of the nest to eat and take care of bodily needs. The parent birds stay quite busy incubating their eggs. Inexperienced breeders are often alarmed when the parent birds bury an egg in the nesting substrate just before hatch. The parents are allowing the egg to cool down. This causes a gaseous exchange to take place within the egg. There is a buildup of carbon dioxide in the egg which triggers the hatching muscle of the embryo which results in the embryo pipping into the air cell. Once the chick internally pips the air cell, it breathes oxygen for the first time. At this time the breeder may hear the chick peeping inside the egg. The embryo has successfully made the transition to an oxygen breathing chick with all the dynamics of the avian respiratory system working correctly.

Humidity requirements are critical during the incubation process. A relative humidity of 50% usually results in a viable hatch. If the humidity level is too low, the embryo becomes dehydrated and is unable to hatch because of sticking to the membranes of the egg due to the lack of humidity. Equally as problematic is a humidity level that is too high which results in air cells that are too small. There is not enough oxygen available for the chick in an air cell that is too small which results in dead embryos in the latter stage of incubation.

There are many reasons that eggs fail to hatch in the process of incubation.

1.) Causes of embryonic death at 3-5 days of incubation are:

a.) Incorrect temperature–if the birds come off the eggs and allow them to cool down once the incubation has started, the embryo dies.

b.) Lethal genetic traits will cause embryonic death. This is due to inbreeding. Extensive inbreeding in the blood line often results in a higher frequency of genetic abnormalities. This causes the retention of undesirable characteristics. The recessive genes become more dominant when there is inbreeding.

c.) Improper handling of eggs, rough handling and excessive vibration will cause embryonic death. Changes in temperature as little as one degree higher or lower can stop the embryo from developing.

2.) Death occurring in the middle part of the incubation process usually is related to:

a.) Nutrient deficiencies in the egg. It is of utmost importance to supply the breeding hen a quality diet that provides her with the vitamins, minerals and other nutrients that she needs. The hen must provide everything that the developing embryo needs in preparation for hatching. The egg must supply the calcium that the embryo will need for metabolic processes in the egg. Fluids in the egg are vital and this too is provided by the hen while the egg is being formed. Dehydration of the embryo may result in embryonic kidney failure which results in death.

b.) Some types of bacteria may be vertically transmitted by the hen to the egg and this will cause the death of a developing embryo.

c.) Fungal infections may also cause death.

3.) Late in the incubation process there are a number of factors which may contribute to the embryo dying before hatch.

a.) Death is normally associated with improper temperatures for incubating the eggs.

b.) Humidity that is too high or too low may result in a chick that is unable to hatch.

c.) Eggs that have not been turned properly may not hatch. Turning the eggs is important to the development of the vascular system of the embryo and equally important to the hatching position of the chick. If the eggs are not turned properly the embryo is likely to be malpositioned in the egg, making hatch more difficult.

d.) Genetic abnormalities and lethal genes are other reasons that the embryo may fail to hatch. Inbreeding is one of the main causes of lethal genes resulting in embryonic death.

e.) Malpositioned chicks may fail to hatch. There are two lethal malpositions from which there is no possibility of hatch.

f.) Most serious is bacterial or fungal diseases which may be present in the next box or from the parent birds. Wet or dirty substrates will cause bacterial proliferation which may cause sick parents or chicks. The fungal disease, aspergillosis, thrives in wet conditions.

Brooders and Brooding

The best nesting substrate available, in my opinion, is pine shavings. Cedar shavings should not be used as these are known to irritate the sinus and respiratory tract of Cockatiels. The nesting substrate should be about two inches deep to provide a cushion for the chicks from the hard wooden floor of the nest box. It is important to avoid nesting substrates that cause dust, produce mold spores when wet, are a source of bacterial proliferation when contaminated with organic matter, or are too slippery. Slippery nesting material may be one of the contributing factors to splayed legs in chicks. Cleanliness and proper hygiene are important to the health of the chicks. The nest box should be cleaned and disinfected. When the nesting material becomes soiled, new substrate should be added. The health and well being of the chicks is determined by a clean and healthy environment. A dirty environment produces sick chicks.

Handfeeding Cockatiels

Handfeeding Cockatiels is intensive work requiring attention to detail and time to do the job right. When a Cockatiel chick is pulled for handfeeding as early as ten days old, feedings are spaced three hours apart from 6 a.m. through midnight. The function of the crop is food storage.

Birds need a crop because of their high metabolic needs. Without the crop, a bird would have to eat continuously to meet the demands of their body's need for food. You can see the muscles contracting in the crop as the food is pushed into the digestive tract. This is a good sign that the digestive tract is functional and healthy. It is critical that the crop empty completely once every twenty-four hours. The best time for allowing the crop to empty completely is the over night fast between midnight and 6 am. If the crop fails to empty in a twenty-four hour period, this is a red

flag for the breeder that there is a problem with the chick. The handfeeder needs to pay close attention to the gut transit time and if it slows down then take immediate action to determine the cause of the problem and correct it. All husbandry practices such temperature, richness of diet, underfeeding, overfeeding, too much water or too little should be evaluated. Sometimes the problem is as simple as the environmental temperature or the handfeeding formula temperature. Temperatures that are too cool will cause the digestion of the chick to slow down. If this condition goes unrecognized it can result in sour crop.

The handfeeding formula must be mixed fresh for each feeding. Leftover formula, which is a source of bacteria, should be immediately thrown away. When handfeeding chicks make sure that the consistency of the food is right for the age of the chick. Giving food that is too thick to any age chick may result in a crop that will not empty. A common mistake is to feed an overly rich diet to very young chicks. If the diet is too rich it may cause damage to the liver and the kidneys. Another major concern is feeding formula that is too hot. The best temperature to feed cockatiel chicks is between 105-107 degrees Fahrenheit. This should always be checked with a thermometer. Crop burns occur when formula is fed over 110 degrees. It needs to remembered that not only the crop receives second and third degree burns, but the entire digestive tract can be burned. Checking the temperature with the wrist is inadequate and over time the wrist will desensitize to hot or cold which can result in serious burns to the chick as well as feeding food that is much too cold.

The greatest requirement for protein is at hatch. As the chicks get older they require less protein. An excessive amount of protein in the diet may cause the kidneys to be over burdened. However the main effect of a diet that is too low in protein and therefore high in carbohydrates and fat, is poor growth.

Cockatiel chicks should be weighed daily. Preferably at the same time each day before the first feeding while the crop is empty. The chicks should gain weight every day until weaning. The growth of the chicks needs to be monitored and compared with the normal development of other Cockatiel chicks. Any chick that loses weight should be evaluated by an avian veterinarian to determine the cause. Weight loss is often the only clue that something is wrong with the chick.

Young Cockatiel chicks lack a competent immune system and are much more susceptible to disease, viruses, and infections than older birds. The chicks have a fully functional immune system at three months of age. Before this age, it is imperative to protect the chicks from exposure to airborne contaminants or pathogens in the nursery.

Feeding Cockatiel chicks a nutritious diet results in excellent health and a strong immune system.

Crop Issues and Other Problems Encountered When Handfeeding

One of the many frustrations in hand feeding Cockatiel chicks is a crop that doesn't empty properly. This is quite serious as it can lead to crop stasis which is the total shut- down of the chick's digestive tract. Some of the reasons that this may happen are a loss of muscle tone in the crop due to overstretching from handfeeding, systemic disease, and dehydration. Dehydration needs to be treated with either an electrolyte solution or subcutaneous fluids given by an avian vet. This is necessary to save the chick's life. With systemic disease, such as liver or kidney dysfunction there may not be anything that can be done to change the ultimate outcome. A crop bra may be of some help with an overstretched crop. An avian vet should be consulted as soon as possible when these problems are encountered by the breeder.

The breeder may encounter a chick that begs excessively. This may be due to an inadequate amount of food being given in the syringe or the chick not being fed as frequently as is required. Cockatiel chicks have a crop capacity of 15cc/ml which can be attained by slowing stretching the crop in the first three weeks of life. If the chick is fed an inadequate amount of food, malnutrition is likely to occur. Formula that has been watered down compromises the nutrition available to the chick. Chicks that are not getting what they need nutritionally are more likely to have problems with stunting, failure to thrive syndrome, and metabolic bone disease. Chicks develop very rapidly, going from three to four grams to over 100 grams at weaning in eight to ten weeks. Anything that interferes with the metabolism of the chick may result in a decreased growth rate demonstrated by the stunting of the chick. Other causes of stunting in a Cockatiel chick are poor parental diet, inadequate fat content, a lack of essential amino acids and an unbalanced formula. Not enough food in the syringe at each feeding, a rigid feeding schedule that does not meet the nutritional demands of the chick by infrequent feedings, and an inadequate amount of solids in the formula, result in stunting.

One of the most serious dangers in handfeeding cockatiel chicks is aspiration. Aspiration happens when the handfeeding formula enters the windpipe instead of the entrance to the esophagus. In very young chicks, this is fatal. With older chicks it is does not always result in death. It causes aspiration pneumonia. An avian vet needs to be contacted immediately so that an antibiotic and an anti-fungal can be prescribed to save the life of the chick.

Cockatiel chicks are more prone to yeast infections during the handfeeding process than any other species of parrot. Cold formula fed to the chick may be one of the reasons for the yeast as well as a vitamin A deficiency.

Fledging Cockatiels: The Power of Flight

One of the mysteries of handfeeding Cockatiel chicks is the preflight diet. Much to the dismay of the breeder the chicks will drastically cut back on the amount of food they are eating so that they lose baby fat in preparation for flight. However during this time the chick's requirements for quality nutrition does not change. The chick is totally dependent upon the surrogate parent for what is needed to support life and maintain growth. It is therefore absolutely necessary for the breeder to get an adequate quantity of nutritious food into the chick. One of the best ways to accomplish this is to feed less volume in the syringe more frequently. During the pre-flight phase, getting the chick to eat 5-6cc/ml of

food five to six times a day will adequately meet the chicks need for quality nutrition.

Socializing Cockatiel Chicks

Cockatiels are programmed for life in the wild. Their survival skills are those of wild creatures who need to forage for food, watch for predators, and find nesting sites. The breeder needs to provide their chicks with survival skills for living in the human environment. Taking time to teach the chicks how to play with toys is important. The chicks should be introduced to different people in the family and allowed to spend quality time with each individual. The time to start a serious socialization program is about the time the chicks are six weeks old. Chicks need to learn about all of the different things in their environment for example the vacuum cleaner is one of the more intimidating items in our homes. Teaching good survival skills for being part of the human flock will help the chicks be happy members of the human family.

Weaning Cockatiel Chicks

Weaning is an individual process. Each chick is unique and no one can predict when a chick will wean. It is important that weaning not be forced, and that the chick be allowed to tell you when it is ready to be independent. Independent eating can be recognized by the chick's ability to eat enough food to maintain his body weight from day to day. The transition from being dependent on the handfeeder to independence takes time. This does not always happen on schedule. Chicks that beg for handfeeding formula even when past the age for weaning should be fed. Most chicks will take handfeeding formula before bed up to ten weeks of age or longer. Feeding the chicks builds confidence, trust, and security that their needs will be met. Once the chicks have reached a normal weight, are drinking water on their own, and have reached a certain level of maturity, they will wean. It is important to allow the chicks to reach this stage of growth and not insist on independence before the chick is ready. Chicks that are forced weaned have emotional and food issues that may influence the quality of life of the chicks for as long as they live.

The high metabolic needs of the chicks require an abundance of food and in critical growth stages only the handfeeder can supply enough food to the chicks. Chicks less than eight weeks of age are unable to eat enough food to sustain growth and meet their caloric needs for energy. It is easy to starve a weaning chick since the chick is unable to consume enough food when eating on their own. A scale is a critical piece of equipment during the weaning process. Chicks should not be allowed to lose more than 10% of their body weight while weaning. Cockatiel chicks are dependent upon their handfeeder for nutritious food that will produce glowing, vibrant health and a strong immune system. May all your eggs be fertile, and all of your chicks healthy and happy members of the human family. Cockatiels are wonderful birds that make excellent family members and bring joy each day to those who have the privilege of living with them. ❖