

Notes on Breeding Cockatoos

by Kayla Snyder
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I would like to begin my presentation with a little history. I am a wife, a mother of two girls, a recently retired music teacher, and an aviculturist. I began innocently breeding birds over 13 years ago when my husband and I got married. We each had a budgie and I did not want to clean two cages! All I have learned over these 13 years about birds has been through reading books, magazines, periodicals, area bird club programs, seminars, attending AFA conventions, and talking to friends. I still am doing all these things because I still do not have all the answers.

When I first began attempting to breed, information about birds was scarce. My love of birds and determination to keep seeking knowledge snowballed into collecting over 30 species of birds and successfully breeding most of them! I went the same road as many of you bird enthusiasts. I was the classic dabbler! Sound familiar? After attending an AFA convention or two, the call to concentrate and not dabble began to sink in. With a gentle, but firm, nudge from my husband, I finally began to think through this "collecting thing." The straw that really broke the camel's back came when my husband's company said they wanted him to move 3,000 miles away. After moving 120 birds across the country, concentrating on fewer species sounded even better. My true love has always been cockatoos, and if it had not been for my experience with so many species building my confidence, I may not be here today.

The decision to get out of a variety of species was actually made before the "big" move. In searching for a home and a place to breed my dream birds, I spoke to breeders all over the country, getting ideas and advice. At times, I was so confused I did not know what to do, but finally a careful decision was made. We would give up the garage for the cars and turn it into an aviary for the birds. Our cars come and go as in any family of four; the birds have all adjusted to this activity.

I have a glass door going into the aviary from the laundry room. I put one-way window film on the glass door so that I can see out, but the

birds cannot see in. I love observing my birds, I can also do this outside at night from my front walkway. Again, I can see in, but the birds do not know that I am there. I record any behavior that even hints at the possibility of breeding taking place. When I do my usual rounds morning and early evening, I will take a closer look to verify any and all suspicions.

The flights are all 3 x 6 x 7 feet tall. There are 12 fluorescent lights mounted with Vita-light bulbs. These are all on a timer. There are vents across one side of the garage and windows on the opposite, and a fan in the attic to pull out the hot air. The garage doors are kept shut except for a brief period each week when routine cleaning takes place. The floor is cement with sand on the top. A Tele-dyne air filter helps keep the air clean. Two plastic dome skylights were also added for extra natural light. We do not heat or cool the garage. The birds seem to find me amusing when I am bundled up for Alaska weather and they in their heavy down. When the outside is in the teens or below, the garage stays at 28°F. All birds have been in this environment for up to five years. All have been healthy (except for a few minor bacterial infections), happy and most pairs are producing.

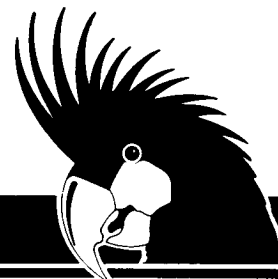
When I recall why I have always been infatuated with cockatoos, I suppose it has to go back to my childhood. I grew up in Sacramento, California with a beautiful Jessie Arms cockatoo print hanging in my parents' home. I never knew that these were real birds. Naturally, when I discovered that these were Citron-crested Cockatoos, I had to have a pair. One pair led to another and now here I am with seven species of cockatoos and multiple pairs of each.

My birds are currently on a pelleted diet by Zeigler Brothers. I switched to pellets because of the seed dust. It took two weeks for most of the birds to make the change. Combine seed dust with cockatoo dust and you get a lot of dust! I also got real tired of blowing out all those empty seed shells so they would eat all the seeds! I have not regretted making the change. The cockatoos are on the

starter/breeder diet for eight months of the year and the maintenance for the other four months. Everyone is given fruits and vegetables year round and a second feeding of a mixed vegetable, sprouted seeds, kidney beans, rice, and nestling food during the breeding season. I also vary the diet with nestling food or willow branches several times a week. When it rains outside, I mist the birds inside. They can hear and smell the rain and they do love their baths!

Just prior to and at the end of each breeding season, cultures are taken at random or on birds that did not produce well or at all. If anything shows up in the culture runs, the appropriate treatments are administered. We have noticed a remarkable difference in productivity because of this practice and my avian veterinarian, Bruce Huganair, is quite pleased with himself!

Water, food dishes and flight floors are cleaned weekly, trays monthly. Perches are 2 x 2 or 2 x 4 oak, or eucalyptus branches that we moved from California to Pennsylvania. All Clear, a water additive by Golden West Bird Farm, is added to the drinking water. We are on well water with



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no additives. The dishes are rinsed with a bleach solution daily and, of course, changed daily. During the warmer weather, five drops of iodine per one and one half gallons is also added to the drinking water. This also seems to encourage breeding in many pairs that have not done so. Major flight cleaning is done at the end and just prior to the breeding season.

Each year I have been fooled by my birds on their breeding season. According to many books and our wild bird breeding season, my birds "should" nest much later than they want to. I have decided to listen to my birds and allow them to breed using

their clock, not mine. I often begin getting eggs in December and January. These first eggs are not always fertile; I am not sure why, but there are several possible answers to this riddle. Maybe the hens are ready before the males, the diet has not been "beefed up," spring-like days are mixed with single digit degree nights, the list goes on. I do feel the birds need a resting period, and each year I have tried to accommodate their desire mixed with mine. It is difficult always knowing what and when to do things, but I think we finally have a workable time table. Since I often get eggs into the summer months, the

resting period is September through December. Lights are changed to 12-hour days with Bug Lights serving year round as night lights during the spring, summer and fall months.

I have a card file on all breeding pairs. Notes are taken and written on a sheet or calendar, and then transferred to the card file after the breeding season is completed. I record such things as date, weather, temperature, copulation, heavier wood chewing than usual, presence of down feathers on flight floors, calcium blocks chewed, birds in and out of nests, color of droppings, and any unusual activity that is out of the norm.

All my pairs have been sexed through eye color, surgical sexing, or chromosome feather sexing. When it has been possible, birds have been given the opportunity to choose their own mates. After a 45-day quarantine period, including culture work, new birds are introduced carefully to their new mates, first, side by side in separate cages, then in the hen's flight. All males are clipped at the onset of the breeding period or introduction to a new mate and I closely monitor pairs during the breeding season.

The Rose-breasted Cockatoos are often the first to display breeding behavior. As soon as this is noticed, willow branches are offered to the Rosies on a daily basis. Other types of cockatoos enjoy these branches too and are given them several times a week. Only the Rosies seem to use the branches in their nest building. Moluccans will carry in twigs from other wood, such as pieces of their log or perches, but will not use the willow branches in actual nest building. Simulating rainfall seems to also play an important factor in triggering actual breeding. As stated before, I do this when it rains outside.

All of my pairs have two or three choices of nest types. I prefer to offer hollow logs instead of human made nests. I have tried over the years and, no matter what, the birds destroy these. It takes them a much longer period of time to destroy a petrified hollow log! In Pennsylvania, woods are abundant and so are hollow logs. We did move five 90-pound logs from California to Pennsylvania and I would do it again. Once a pair has chosen their favorite nesting place, I like to always provide them with the same one year after year. I do not take these nests down during the resting period. Because it is cold in the garage in the winter months, some of the



Photo by Michael Koczanski

The Umbrella Cockatoo is one of the most popular cockatoos found in aviculture. Not only is it a top choice for breeders but young hand-fed babies make excellent pets. This photo was entered into the 1990 AFA Watchbird Photo Contest by Michael Koczanski, Danbury, Connecticut and won an honorable mention.

pairs sleep together inside the logs. If I have a problem with shutting down a hen, I will remove her nest for a few weeks. These nests are just too big to be hauling up and down! A trash can is also offered to most pairs, and one nest is mounted horizontally, the other vertically. Some nests have two entrance holes, some only one, some have peep holes, some are wide open at the top, with dimensions varying from 5 to 15 inches depending on the species for which it is being provided. I do have one or two logs which are L-shaped and the pairs that have those nests really like them. I wish I had a few more. I freshen up the nests each season with pine shavings and rotten wood pieces. Rotten wood is routinely added to the nests until eggs are laid.

Other signs of breeding besides what has already been mentioned are the way the nest has been worked, mineral block consumed by some pairs that never touch it, excess preening (cockatoos preen each other year round, but they cannot seem to get enough during the breeding season), and an increased level of sharing food. Copulation may go on with some pairs for weeks or even months before the first egg is laid. In fact, one pair of Goffins mated year after year before laying their first clutch for me. I bought the pair as a proven pair, but it took them four years before producing their first offspring for me.

As most of you have figured out by now, you have to take the failures if you want the successes when it comes to raising birds. I have been breeding cockatoos for seven years. Even though I had several years of experience raising various species of birds, there have been challenges, heart break, wonderful successes, and failures with each breeding season. I have always tried to learn from my mistakes, trying not to repeat them and move on.

A few years ago, I tried to let the cockatoos incubate and raise their own chicks to at least three weeks of age. After a couple of seasons of parents abandoning eggs three days before hatch, hatching two chicks but feeding only one, broken eggs, cracked eggs, eaten eggs, etc., I decided to take an incubation class or two, read all I could get my hands on and take matters into my own hands! This has been the hardest part of raising birds for me. For six to eight months a year, I am fretting over what's cooking or not cooking in the

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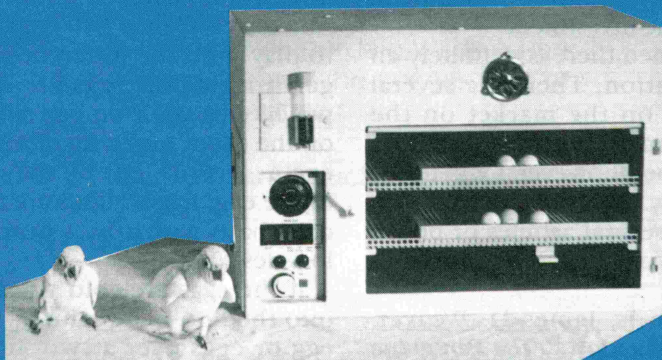
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incubators, cheering on a chick to pip the shell and meet its new world, and then feeding this new life every two hours for its first few days and on to becoming the beautiful creature it was meant to be.

The egg sizes of the different species of cockatoos differ considerably. Some of the eggs are round, oblong, some are very pointed, but all are white. I have read somewhere along the line that some folks think these egg shapes may have something to do with gender. I really have no idea, but it sounds good. I also use ceramic eggs for my egg eating pairs. If I can get to the egg before the male, I replace the good egg with a ceramic egg to fool the hen so she will lay her second egg. I still have problems getting to the second egg before the male. Interestingly enough, I have never had the males eat one of the ceramic eggs. This is a continuous problem with one pair of Moluccans and an Eleanora hen. I have also captured the hen, placed her in a small cage with a perch low to the cage floor, and three to four inches of pine shavings. For two years in a row, I have been successful in retrieving this hen's eggs in this manner.

Each year I have invested more money into my breeding program. I am primarily referring to products, not birds. After acquiring incubators (I have two Lyon TX7s and a Hovabator), I realized the need for a battery backup system because of power failures. I acquired mine from Paul Gildersleeve in New York. Each year, our area is prone to power failures during stormy weather. It has been well worth the investment.

I have learned there is definitely an art to incubation. There are several good books on the market on the topic and I cannot possibly cover all I do in this paper; however, I will touch upon it briefly.

There are several articles or books that I refer to or have memorized. They are:

Cade, Tom J., James D. Weaver, "Falcon Propagation," *The Peregrine Fund, Inc.* January 1983.

Gould, Barbara and Geoffrey, "Research Notes on the Macaw Eggs," *Bird World*, September/October 1989:60-64.

Schmitz, Carol, "Incubation and Troubleshooting the Problem Egg," *AFA Watchbird*, October/November 1989:26-34.

Stoodley, John and Pat, *Parrot Production*, England: Bezel's, 1983.

There is a new book out that I plan to purchase this year. Some of you may already own the text, others are planning to purchase it, like me, in the near future. It is called *Parrot Incubation and Procedures* by Rick Jordon. I hear good things about this text and I look forward to owning a copy.

Now, on with some of my incubation procedures. I am pulling all eggs as already stated. The first round of eggs is pulled immediately, perhaps even the second, however, the third clutch is left with the parents for a week or ten days. At this writing, which is late May, I have one or two pairs thinking of laying a fourth clutch! This has never happened to me before, in fact, I have never had three clutches from my cockatoos until this year.

When eggs are collected, I determine if they are warm or not. If warm (I also candle at this time), they are placed directly into a 98.5°F incubator with an 87 to 89 wet bulb reading. In the winter months, I found that many of the chicks needed help out of the shells if the wet bulb reading was 83 to 85. All would hatch, but a large number needed assistance. I suppose this is due to the dry heat in the room temperature. The Lyon TX7s are equipped with automatic turners, an 11" thermometer, a high accuracy mercury thermometer for the wet bulb reading, and a size Tr6-27 turning ring. I primarily use the middle ring for most eggs, the inside ring for Goffins and Rosebreasteds, the outside ring for extra large Moluccans or Umbrella eggs. The turn I want is 180 degrees. I have to play with the different sections to get it right. All eggs are marked in pencil with an X on one side, a circle on the other, and a flight number and egg A, B, C, D, etc. on the other side of the egg. Egg weights are taken on a daily basis with a 16% overall weight loss desired.

If the eggs are cold when brought into the house, I gradually warm the egg or eggs over a two- to six-hour period. I begin, if I can, with a cold incubator and gradually turn the heat up to 98.5°F. This has not always been possible, but putting cold eggs directly into an already set incubator has worked for me too. The only extra thing I do is cool the egg a few times in the warming process for just a minute or two. This possibly simulates the parent getting on and off the nest, gradually warming the egg

herself.

After five days of incubation, four in some species, the eye ring of the chick can be seen by candling, and veins on the following day. For me, this is always a time of rejoicing. As the egg progresses, it appears solid in content.

Three to four days before hatch date, I look for the draw down feature on the inside of the egg. A pencil line circling the air space before expected draw down helps me to identify this feature. This is accomplished by candling the egg. It is at this point that I stop turning the egg and place it in another incubator with even higher humidity: 90+. Usually in 12 to 48 hours, the chick will make an external pip on the shell. Hatching is usually in 24 to 48 hours. I have had a few take as long as 65 or more hours; most hatch around 48 hours from external pip. This is also a time which requires *great* patience. I have a fortune from a Chinese fortune cookie taped to one of my incubators. It reads, "Nature, time and patience are three great physicians." Whenever I become nervous about a hatch, I read this fortune. It is a great reminder about how things take time, especially when dealing with life.

After the chick hatches, the umbilicus is swabbed with a 1% iodine solution and the chick is placed in a margarine cup lined with a small, dry washcloth. The chick is then placed back inside the incubator for several hours to rest and get used to being outside the egg. After he or she is more alert, I give it .03 to .06 cc of Pedialyte (this is usually after six hours from hatch), and then I put the chick in a drier incubator. I like using the "made in Denmark" syringes distributed by Pampered Parrot Haven. I usually start out at 97°F and gradually turn the incubator down to 94 or 95°F. After the Pedialyte solution has emptied, I give the new chick its first very watered down formula. I heat my food to about 103°F. Babies are fed every two to three hours the first seven to ten days of life. I feed from 7:00 a.m. to 11:00 p.m., and at 3:00 a.m. Once the babies are consuming 10 cc of formula, I cut out the 3:00 a.m. feeding. As babies grow and consume larger increments of food, the feeding times are stretched to longer periods in between.

All chicks are weighed on a daily basis. I use a gram scale that weighs in increments of one gram. My hand feeding formula is a powder formula

made by Zeigler Brothers. I add water and an assortment of Gerber baby foods. I do not add much in the way of the baby foods, but I do feel it helps to encourage the babies to eat other foods as they are growing up. I like using garden vegetables, apple-sauce, and creamed corn. These are all foods I wean the babies onto, besides pellets. As soon as they begin to show interest in nibbling at anything, I offer corn on the cob, apples, oranges, grapes, broccoli, carrots, peas, green beans, and pellets. I have weaned Moluccans as early as nine weeks of age! No toys are offered, only food to play with.

As babies grow, they are moved to bigger living quarters. They are kept in the margarine cups for their first week or so of life. Naturally, they are moved to bigger cups as they grow. These cups are inside an aquarium using the same heat source they will be in until they are moved to a cage. After seven to ten days, they are then placed directly into the aquarium with wash cloths as padding. The aquariums have a heating pad under them, set at what temperature is desired for each age group of chick. As the chick gets bigger and begins to feather, the heat is decreased, until finally, when ready for a cage, no heat source is needed. If I am comfortable in the room, so should be my feathered friends.

Babies are closed banded at about 21 days of age. A week prior to the sale of one of my chicks, a culture is run and a birth certificate is painted. The new owner receives written instructions on the care of their new baby and is asked to call me within 24 hours to give me a report. I also follow up with a call or two myself. I even send the baby a "first birthday" card!

As you can tell, I love raising these birds. It is sad to see them go, but I also know there is no way I can keep all of them! It is fun to hear from the owners and sometimes I even get to see some of my babies. It is a real joy to see them all grown up and talking.

Where am I headed? At the moment, I just want to keep doing a better job than the previous year. Yes, I do have my dreams of wanting to own really expensive cockatoos, and perhaps some day I will. For now, we have two girls to put through college and it looks like the birds and I are going to do it! So those pairs of Lead-better's and Palm Cockatoos will just have to wait. ●

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