

Chemical Dyes and Our Bird's Health

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To many people, the addition of color in foods represents fruits and vegetables, a "natural" look and appeal. Many manufacturers utilize chemical dyes to promote the sale of their product, as they feel many consumers would not purchase a colorless product for they may equate colorless with tasteless. After all, isn't this color what catches the eye?

Although there is a current trend to "go natural" and avoid the use of synthetic food colors, the American industry nevertheless puts out over 3000 tons of food color into processed foods each year. However, only about 10% of the food consumed in the U.S. contains synthetic food colors.

Many folks are now educating themselves and have become aware of the dangers these chemicals can produce. As a result, many conscientious bird owners are looking for, finding, and serving more natural products and foods to feed their pets and themselves! This is an improvement that is *very* exciting and optimistic for the future of aviculture.

Synthetic food colors are manufactured from molecules derived from petroleum or coal tar. Sounds absolutely delicious doesn't it? Most synthetic colors do not fade during processing and storage, giving them the added advantage over natural coloring agents. How convenient!

Synthetic food colors are found in a wide variety of products, from sodas, candy, dessert mixes, to commercially prepared baked goods, sausages, hot-dogs, toothpaste, and dry convenient diets for birds and other pets. Chemical dyes, of course, are also used in many drugs and cosmetics.

There is no doubt that high doses of most synthetic food dyes approved by the FDA are capable of causing cancer. This fact has been proven in many lab tests using mice, rats, rabbits, and sometimes monkeys. So then, the question is not whether chemical dyes are capable of causing cancer, among

other disorders (i.e., allergic reactions, intolerances, and behavioral disorders), but at what dose. Each food color has its own individual toxicological properties. What follows is a list of the seven legal coloring agents and their potential adverse effects.

Food Color	Health Effects
Red #3	Thyroid tumors, chromosomal damage, hyperactivity, may cross react with salicylates
Red #40	Lymphatic tumors, hyperactivity
Blue #1	Chromosomal damage
Blue #2	Brain tumors
Green #3	Bladder tumors
Yellow #5	Thyroid and lymphatic tumors, allergy, hyperactivity
Yellow #6	Kidney tumors, chromosomal damage, allergy

Collectively, the safety of chemical dyes is unknown and their absolute

safety can never be proven. However, the FDA maintains that because so little of the cancer-causing dyes are used, the amount ingested would be insignificant. Although the Delaney Clause of the FD&C Act bans all carcinogenic agents in foods, the dyes continue to be used (along with many other potentially harmful synthetics). The FDA accepts the use of these food additives on the basis that they pose a "negligible risk" to the consumer. This approach, however, requires that it is possible to translate accurately high-dose animal data to low-dose bird risk for their very small size and weight. Not all people agree that this is possible.

It has been noted that most of the chemicals studied that do cause cancer at high doses also cause cancer at low doses. Manufacturers invariably defend chemicals by saying the amounts in

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their foods are too small to cause a problem. However, we can't assume that a chemical present at 1ppm, or 1ppb, will in fact be harmless. In addition, the allowable levels of many pesticides, veterinary drugs, and food additives are probably too high, because they were established well before research determined the potential risks of these substances. It must also be recognized that the FDA conforms with the economic interests of the additive industry and other industries which pose a health threat to our country.

Health factors *and* economic gain are both taken into consideration prior to the marketing of a new chemical additive, etc. We must be cautious about the foods we choose for our birds. Those that contain chemical dyes, as well as other food additives, such as refined sugar, artificial flavors, synthetic preservatives, pesticides, and the combination of all the above in one product may have an even greater negative effect on our birds. Many health organizations discourage the

use of artificial coloring and encourage their avoidance. Why take the risk?

It seems worthy of consideration that the nutrient content of a commercial bird feed is essentially synthetic. During food processing, products undergo changes in acidity, temperature, light exposure, and physical manipulation that result in the loss of micronutrients that were there to begin with. In other words, the processing procedure denatured any natural vitamin and mineral that may have existed in the original food. Although, in some cases, these nutrients are not there to begin with due to poor soil conditions the foods were grown in. In either case, the food must be enriched or fortified to assure it is "complete" to offset the loss or lack of many essential nutrients.

Back to the subject of food colors. While the label must list artificial color if it is added, it does not need to be specified as to the color additives used, except for color Yellow #5. However, this may change when the FDA rules go into effect to list specifics. The FDA plans to ban Red #3 soon. In Europe,

Red #40 and Green #3 have been banned. It should also be noted that in the field of nutrition, foods that contain chemical dyes are generally considered of low nutritional value. Chemical dyes are not necessary for any other reason except to please the eye of the purchaser.


Our birds are all biochemically unique and their tolerance levels will vary when it comes to consuming foods that contain artificial dyes. The effects that these dyes will produce will depend on a bird's ability to effectively eliminate these substances from their bodies, no matter how small a level is consumed. The elimination process is slow and storage levels, with later accumulation, may easily cause internal damage when the regular feeding of such a diet is endured. We should understand that it is the *long-term* health risks we are concerned with here. Your birds may or may not show ill effects from the short-term use of these products.

By far the best way to minimize the exposure your birds have to food additives is to use fresh, unprocessed, preferably organic foods whenever possible. Moreover, organic unprocessed foods often taste better and are nutritionally superior.

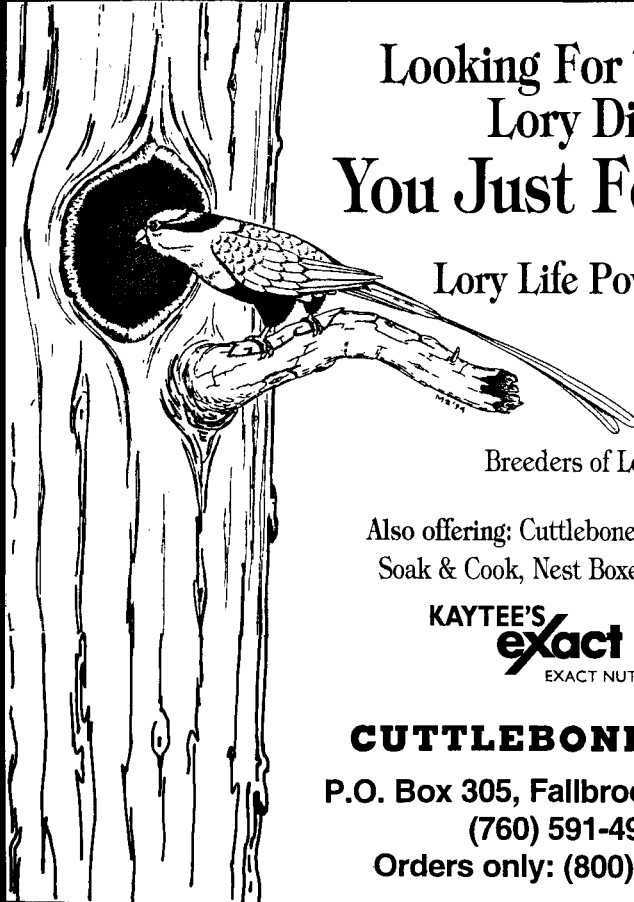
Preparing fresh foods may seem more time-consuming than simply opening the cover or bag of a commercial bird feed and merely pouring its contents into a bowl; however, your birds' health, happiness, and longevity should make all the effort worthwhile.

Suggested Reading

Jacobson, Michael F., Ph.D., *Safe Food: Eating Wisely In A Risky World*. Venice, CA: Living Planet Press, 1991.


Alicia McWatters resides in New Mexico with her family and two pet birds: Congo Grey "Tiffany" and African Red-bellied Parrot "Lucy." She was a breeder of Greys and Pionus for a number of years and currently works as a holistic avian nutrition and health consultant. She can be reached for a private consultation at (505) 281-5168. 

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