

# Supplements: Are They Needed & How Much?

by Dr Tony Hanks, OAM

[At the August meeting of the QFS, Dr Tony Hanks presented a talk entitled "Supplements & Lessons for Finches & Gouldians". This article is a summary of the first part of this interesting topic. The second part will be published later.]

## 1: The Need for Supplements

Supplements are necessary for birds in captivity because a seed-only diet lacks essential nutrients found in the wild. Some people will comment that wild birds don't receive supplements, but they do. Finches in particular spend a lot of time foraging on the ground, consuming vitamins and minerals.

Providing supplements helps to prevent nutritional deficiencies, support overall health, and maintain proper feather growth and immune function. They are crucial in ensuring birds receive the right balance of nutrients needed for breeding, growth, and recovery from illness. Without supplementation, captive birds may suffer from health issues such as weakened bones, poor plumage, or compromised organ function – making it vital to include them as part of their care plan.

Additionally, there are some mutations where it is the cause of the changed appearance itself that also creates a situation where a supplement is essential for survival. One such example is the blue backed Gouldian where the reduced carotenoids also limit Vitamin



A production, so a supplement like Solaminovit or Soluvite D is needed.

## 2: Quantities Required

A list of vitamins and minerals is of little use unless we know the level we are wanting to achieve? The species-specific nutritional needs can be established by looking at various reference sources, but it is important to consider both the minimum requirements as well as the maximums to avoid over-dosing.

Following this exercise for Gouldian finches, the author arrived at the following requirements:

| Recommended Vitamin & Calcium Concentrations |             |                                                              |                |
|----------------------------------------------|-------------|--------------------------------------------------------------|----------------|
|                                              | Recommended |                                                              | Maximum        |
|                                              | Maintenance | Breeding/Moulting                                            | All Situations |
| Vitamin A (IU)                               | 5,000       | 11,000                                                       | 13,200         |
| Vitamin D3 (IU)                              | 1,000       | 3,000                                                        | 3,600          |
| Vitamin E (IU)                               | 10          | 50                                                           | 60             |
| Calcium (mg or mcL)                          | 2,000       | 5,000                                                        | 6,000          |
| Iodine (mg or mcL)                           | 2.5         | 2.5                                                          | 50             |
| Units per L or Kg                            |             | Ref: Hanks T, "Gouldian Finches - Care, Breeding & Genetics" |                |

## 3: Ingredient List

With the desired concentrations in mind, it will next be necessary to look at the ingredients list for the branded supplements that are being considered.

Knowing the ingredients in a supplement is vital to ensure that it truly meets the specific nutritional needs of the bird species, but unfortunately some products do not disclose this essential information. It is impossible to verify whether the supplement contains the right vitamins, minerals, and other nutrients required; and avoid over-dosing where excess levels of certain nutrients may lead to toxicity, or interfere with the absorption of others.

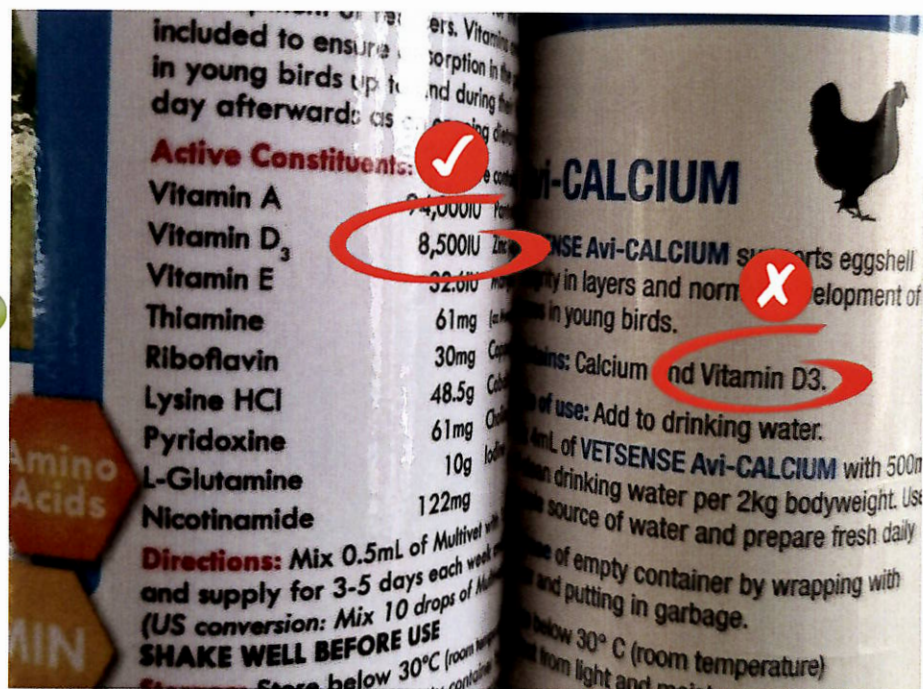
This is why for products intended for human consumption in most countries, there are strict legal requirements regarding the disclosure of ingredient lists. For example, the Food Standards Australia New Zealand (FSANZ) "Food Standards Code" mandates that all pre-packaged food must display a complete ingredient list on the packaging. Ingredients must be listed in descending order by weight, and any additives or allergens must also be clearly identified.

Sadly this regulation does not apply to foods for animals, so these products with no



ingredients listed are best avoided.

Examples of products that do and don't disclose their ingredients below:



#### 4: Delivered Quantities

Once the concentrations are known in a specific supplement, this information can only become relevant after the dosage is also considered. In other words, it is not enough to simply compare the ingredient list.

For example:

| Supplement | Vitamin A/L  | Dosage / L | Delivered / L |
|------------|--------------|------------|---------------|
| D Nutrical | 500,000 IU   | 5ml        | 2,500 IU      |
| Multi-Vite | 1,333,333 IU | 1ml        | 1,333 IU      |

In this example the product with more than double the concentration ends up at about half the concentration when the dosage is delivered to the birds. Knowing the product concentrations is essential, but it is not enough until the dosage is also factored in.

The formula for calculating the concentration delivered is shown in Figure 3.



|                          |   |                       |   |                 |   |                         |
|--------------------------|---|-----------------------|---|-----------------|---|-------------------------|
| Dose / Volume            | x | Product Concentration | x | Days per Wk / 7 | = | Concentration Delivered |
| For example:<br>5 / 1000 | x | 500,000 IU            | x | 7 / 7           | = | 2,500 IU                |

Figure 3  
Formula for calculating the concentration delivered.

## 5: Average Consumption

While it is interesting to understand the average daily consumption of food and water, this does not need to be factored into the quantities of supplements because it has already been factored into the values listed under "Quantities Required".

Nevertheless, as an example, an average Gouldian consumes 30% of its' body weight in seed per day. So that's 4.5g of seed per day for their 15g weight. This is so much greater than mammals (2%) due to their higher metabolic rate.

They also drink water frequently with dry seed, consuming approximately 4.5ml per day (based on water needs of 300ml per kg). This is why finches in the wild are seldom far from water.

These calculations confirm why products generally express their doses at the same rates for g/Kg and ml/L; where both result in the same final consumed rates.

One exception is if a powdered supplement will be used on dry seed. Even if an oil is added to adhere the supplement, finches de-husk their seed so much of the supplement is lost, resulting in a concentration of only approximately 50% being available. A higher dose can then be used to compensate for this loss.

## 6: Conclusion

By being aware of the . . .

- Requirements
- Ingredients
- Dosage
- Final delivered concentrations

it is possible to design a suitable Care Plan by making informed decisions when comparing different brands or products.

Just to demonstrate the calculations, an example of "Supplement Selection" is shown in Figure 4.



### Supplement Selection for Gouldians

| VITAMIN & MINERAL REQUIREMENTS: |      | Per L or Kg    | Date:           |                |                    |                   |
|---------------------------------|------|----------------|-----------------|----------------|--------------------|-------------------|
| Reference                       |      | Vitamin A (IU) | Vitamin D3 (IU) | Vitamin E (IU) | Calcium (mg or mL) | Iodine (mg or mL) |
| Gouldian Care by Tony Hanks     | Min: | 5,000          | 1,000           | 10             | 2,000              | 2.5               |
|                                 | Max  | 13,200         | 3,600           | 60             | 6,000              | 50                |
| (Alternative)                   | Min: |                |                 |                |                    |                   |
|                                 | Max  |                |                 |                |                    |                   |

| PRODUCTS EVALUATED:                     |           |            |           |         |        |  |
|-----------------------------------------|-----------|------------|-----------|---------|--------|--|
| Product 1                               | Vitamin A | Vitamin D3 | Vitamin E | Calcium | Iodine |  |
| Name <i>Solvite D (powder)</i>          |           |            |           |         |        |  |
| A) Labelled Dose ml / L or g / Kg       | 10        |            |           |         |        |  |
| B) Labelled Ingredient / L or Kg        | 1,000,000 | 250,000    | 2,500     | 0       | 200    |  |
| C) Delivered Ingredient (A / 1000 x B)  | 10,000    | 2,500      | 25        | 0       | 2      |  |
| D) Concentration Available (%) $\oplus$ | 50%       |            |           |         |        |  |
| E) Final Delivered                      | 5,000     | 1,250      | 12.5      | 0       | 1      |  |
| Or Revised Dose for Full Conc'n (A / D) | 20        |            |           |         |        |  |

Figure 4

Example to demonstrate how the calculations can be made (just as an example)