A common controversy among aviculturists continues to circulate over the use of the gray versus black stripe sunflower seed.

When sunflower began to be used in agriculture, there was roughly one type of seed available, the common black stripe. As the demand for this seed increased to satisfy the needs of the confectionary industry (human food sales), agricultural feed products, and for sunflower oil production, industry agronomists sought to develop a higher yielding plant. From the ensuing genetic experimentation, numerous advances were made. From this came disease resistant strains of sunflower, seeds that produced a higher percentage of oil and, yes, even the gray striped seed. You may note on your next purchase of black striped seed that the bag will be laced with gray striped seed. This is because in any black striped sunflower head there are a few gray striped seeds. It was from these gray striped seeds that the gray striped variety of sunflower was developed.

History is vague as to the exact origin of the gray striped seed. Whether California or some other locale was its home of inception is unknown to me. It is clear, though, that today California is the primary grower of gray striped seed and I feel there are simple explanations for this.

1. There is a high concentration of confectionary companies on the west coast.
2. This confectionary industry prefers gray over black striped for no other reason except when roasted in the hull it appears cleaner due to its reduced hull pigment.

A careful review of laboratory seed analysis will show that there is a minute, if any difference between the two seeds. Why then do some aviculturists prefer using more expensive gray striped seed? Some bird breeders have told me that upon culturing (growing bacteria) from the two different seeds they find a greater incidence of bacteria from the black stripe. It has also been stated that the birds prefer gray striped over black striped (no real explanation given). Those who use gray striped assume that because black striped is less expensive, it is substandard. Those persons who use black striped say that they prefer it because it's cheaper.

When considering seed for cleanliness there are many factors to be taken into account—type of irrigation, type of storage, and freshness of the product. For those aviculturists who have experienced high bacterial growth, it has nothing to do with the type of seed itself. But without question, storage is the single most important factor. Older seeds stored for a longer period of time have a greater chance of exposure to rodent and bird excrement, as well as to molds. The fresher the seed; the less the risk.

Irrigation can play an important role in cleanliness. This factor, often overlooked, needs more consideration. Agricultural crops grown in California

<table>
<thead>
<tr>
<th>Seed</th>
<th>Measure</th>
<th>H₂O</th>
<th>Carbohydrate</th>
<th>Protein</th>
<th>Fiber</th>
<th>Saturated Fat</th>
<th>Unsaturated Fat</th>
<th>Phosphorous</th>
<th>Calcium</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Gray Stripe</td>
<td>Approx. 1 Cup</td>
<td>145 gm</td>
<td>10.7 g</td>
<td>28.9 g</td>
<td>34.8 g</td>
<td>5.5 g</td>
<td>8.2 g</td>
<td>56.9 g</td>
<td>1214 mg</td>
</tr>
<tr>
<td>2) Black Stripe</td>
<td>Approx. 1 Cup</td>
<td>145 gm</td>
<td>11 g</td>
<td>20.5 g</td>
<td>35 g</td>
<td>5.5 g</td>
<td>8 g</td>
<td>55 g</td>
<td>1200 mg</td>
</tr>
</tbody>
</table>

Black stripe results were in % and had to be adjusted to compare.

Amino Acids

<table>
<thead>
<tr>
<th>Seed</th>
<th>Measure</th>
<th>TRP</th>
<th>LEU</th>
<th>LYS</th>
<th>MET</th>
<th>PHA</th>
<th>ISL</th>
<th>VAL</th>
<th>THR</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Gray Stripe</td>
<td>Approx. 1 Cup</td>
<td>85</td>
<td>401</td>
<td>223</td>
<td>119*</td>
<td>278</td>
<td>267</td>
<td>317</td>
<td>230</td>
</tr>
<tr>
<td>2) Black Stripe</td>
<td>Approx. 1 Cup</td>
<td>81</td>
<td>410</td>
<td>229</td>
<td>110*</td>
<td>282</td>
<td>261</td>
<td>314</td>
<td>224</td>
</tr>
</tbody>
</table>

*Limiting amino acid
1) Nutrition Almanac © 1980
2) Feedpro © 1956

Some of the tests are averages from multi tests. Also test can vary do to type of lag procedure used!

*Amino acids—tryptophan, leucine, lysine, methionine, phenylalanine, isoleucine, valine, threonine.
rily heavily upon reusable water supply, i.e. sewage treatment water. Water districts in central California near Sacramento consider this type of water unfit for drinking, but acceptable for the agricultural community. Sunflower crops are routinely irrigated with reusable water. This shouldn’t imply that the seeds are dirty, however. In my opinion, when possible, buy the freshest seed stored in the most sanitary conditions, know where it’s grown and use your own judgment.

Budgeting is the name of the game in this day and age. Getting the most for your money should be a primary consideration. When considering the purchase of gray or black striped sunflower, one should keep the following facts in mind. Gray striped makes up a small percentage of the total sunflower grown in the U.S.A. In California where the gray striped is grown, production costs tend to be higher than in other parts of the U.S.A. These factors account for its increased cost over black striped. If your feed store is charging the same for both seeds, you are most likely paying a real premium for black striped. Realistically, the cost for black striped should be less because of its greater availability and its lower production costs.

Bird breeders should also realize that though the hull size varies greatly among both types of seed, the kernel (edible part) remains almost identical. This single factor can provide you more food if you buy the smaller seed. For instance, in 50 pounds of medium sunflower the total volume of hull is less when comparing it to 50 pounds of the larger type. Some say an increase in food of as much as one third to one half can be realized. If you feed sunflower to your larger birds, reducing the size of the seed should pose no problem for the birds.

One should keep in mind the potential costs incurred in shipping. If your feed supplier is a large purchaser, you shouldn’t see a large mark up. The difference in cost from ordering black striped from the midwest plus shipping is appreciably lower than the cost of gray stripe from California, plus its shipping.

The table provided is intended to show not only the similarity between the two types of seed, but also to show the other nutritional ingredients the seeds possess. Note: Black stripe should not be confused with the black seed (oil type). The black seed is much smaller, on an average one half the size, and its oil content is 40% whereas the striped seeds have 30%. Its primary use in agriculture is limited to the oil industry for cooking oils and fuel.

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Phone: ________________________________

Location of Birds (if different from mailing address): ________________________________

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1) Are you involved with birds?
   - [ ] Personal Pets/Breeding Hobby
   - [ ] Financially Subsisting Breeding Hobby
   - [ ] Commercial

2) Are premises occupied day and night where birds are located?
   - [ ] Yes
   - [ ] No

3) If no, explain ___________________________________________

4) Do you transport birds regularly?
   - [ ] Yes
   - [ ] No

5) If yes, explain ___________________________________________

6) Have you had any losses in the past three years (whether covered by insurance or not)?
   - [ ] Yes
   - [ ] No

7) If yes, explain ___________________________________________

8) Describe type of aviary and/or cage construction, location and general security: ________________________________

Bird descriptions and values. List all birds valued at $300 or more.

<table>
<thead>
<tr>
<th>SPECIES</th>
<th>NAME OR ID #</th>
<th>SEX IF KNOWN</th>
<th>DESCRIPTION (COLOR, CHARACTER, TALENT, ETC.)</th>
<th>VALUE</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>SPECIES</th>
<th>DESCRIPTION (COLOR, NORMAL, MUTATION, ETC.)</th>
<th>INDIVIDUAL VALUE</th>
<th>MAX $300</th>
<th>TOTAL GROUP VALUE</th>
</tr>
</thead>
</table>

MAIL TO: George L. Brown, Insurance Agency, 30131 Town Center Drive, Suite 275, Laguna Niguel, CA 92677