

# Getting the Best out of Beans...

## Sprouting for Extra Nutritional Value

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Photo by Susie Christian



Assorted seeds, grains, and legumes suitable for sprouting.

Would you like to offer your parrots the type of living foods that wild parrots choose for themselves? Are you concerned about the hundreds of pesticides used on conventionally-grown produce? Would you feed your birds organic foods if it were affordable? If so, sprouting for your parrots will be of interest to you.

Many aviculturists avoid sprouting because they believe that it is difficult and time consuming. Nothing could be further from the truth. It is surprisingly easy and takes very little time. If you have access to a health food store, you can purchase everything necessary for successfully sprouting many health-giving seeds, grains and legumes safely and at very little cost.

If you have hesitated to try sprouting because of the fear that sprouts are dangerous and full of bacteria and fungi, hesitate no more. It is so easy to sprout safely that fear of microbial contamination is no excuse for passing up the opportunity to give your birds the live food that they are biologically adapted to consume.

If we observe the basic rules of food hygiene and keep in mind that germinating seeds are fragile, growing baby plants, we will handle them carefully and they will not become damaged and therefore easily tainted with

harmful organisms. It is best to buy seeds for sprouting from reputable sources. Seeds that are second rate in quality and price are not a bargain. EB Cravens, popular writer and aviculturist from Hawaii says: "I cannot overemphasize how important quality seed stock is to a sprouting program. To take a standard mass-produced birdseed mix and attempt to sprout it for your pets is asking for trouble! We utilize only health food and human-grade seeds, pulses, and grains."

### Sprouting for Increased Production

One of the goals of most avicultural programs is a good production rate. With optimal care, most healthy parrots are able to reproduce and raise healthy babies. However, there are many pairs that frustrate their owner's by never reproducing for no apparent reason. Sprouted or germinated seeds have a rejuvenating effect on humans and animals alike because of the RNA, DNA, protein, and essential nutrients that are found only in living cells.

Studies have shown remarkable changes in damaged human DNA upon the introduction of a compound found in young growing plants like wheatgrass. These studies were done on reproductive cells, and the results suggest that live plants may improve

and even restore fertility. Many of the benefits of various foods appear to affect parrot health in much the same equivalency as to human health. Raw sprouts and grasses are easily-digested foods and have a higher biological efficiency value than cooked greens, seeds, and beans.

According to Greg Harrison and Branson Ritchie in *Avian Medicine: Principles and Application*, "Bean sprouts are considered highly nutritious and are thought [by many aviculturists] to stimulate breeding ..."

Mike Owen from Queensland, Australia, a successful breeder of many parrot species says, "I am a regular sprouter of seed for my birds, especially when they are breeding. The first thing to note is that one of the major effects of sprouting is to increase the protein content, by up to a factor of two. Thus sunflower, which normally has a protein level of around 20%, has this increased to around 35% with sprouting — all that oil (fat) is being converted! The highest protein and nutritional value is achieved when the tip of the root first appears. As the root gets longer, and the shoot appears, the level of protein and vitamins sinks rapidly. This high protein level is one reason that sprouted seed is so useful to breeding birds, with their higher protein requirements. Birds in a non-

breeding situation can be fed less sprouts. I would give about a table-spoonful to a bird out of breeding condition, but as much as they want to eat during breeding season, at least a cup full. Sprouted seed is also of value to moulting birds, which have an increased protein requirement.”

Common sense dictates that animals in the peak of health are more likely to reproduce than those that are only marginally healthy. In numerous studies of cattle, the addition of sprouts to the diet was found to increase the production of milk and to restore fertility to cows that were sterile. This is not surprising because wheat sprouts, for example, supply more and higher-quality vitamin E than does wheat germ, a noted source of the fertility vitamin. The vitamin E content of wheat triples when it is sprouted. Oats and rye also are excellent sources of the fertility vitamin as are all sprouted seeds and nuts. The point of the studies is that the reproductive function of animals can be rejuvenated and restored to its normal healthy state when the diet contains an abundance of sprouts.

### Living Foods

By the time most produce reaches our grocers' shelves, it has spent many

days and sometimes weeks in transit over half a continent. The nutrients present at harvest have gradually decreased to a fraction of what they were when the food was freshly harvested. When parrots eat sprouts, they are eating tiny, easy-to-digest plants at their peak of nutritional value. The seed releases all of its stored nutrients in a burst of vitality as it attempts to become a full-sized plant. When eaten as sprouts, seeds literally give the best of what they have to offer in terms of nutrition.

### Conflicting Directions

If you have researched the mechanics of sprouting, you may have been put off by the contradictory information that is available in magazine articles, books, and on the internet. If you read enough articles on the subject, you will find every viewpoint and its opposite on every aspect of sprouting. Here are some examples, but the bottom line is that in spite of all the conflicting directions, sprouting is a very forgiving art so “just do it!”

**Rinsing seeds:** There are instructions for rinsing seeds with cold water, tepid water, and hot water. The most important aspect of rinsing seeds is the

purity of the water. Use filtered water if you are unsure of your water source. Whatever temperature you choose, rinse until the water runs clear. One aviculturist who has been feeding sprouts safely to his flock for many years says that the toxins and nitrogen by-products generated by the sprouting process are much more soluble in hot water than cold water. Antibacterial products as detailed here later may be used if you are concerned about contaminated sprouts.

**Soaking time:** For each individual seed and bean, you will read instructions to soak them for a specific amount of time, from two to twenty-four hours. Increased soaking time can increase the likelihood of fungal growth, and the general rule is to soak for two to four hours, and as long as 16 hours for larger and harder seeds. Popcorn and dry shelled feed corn require 12 to 18 hours to sprout easily. As you experiment, you will discover what works best for each type of seed or pulse that your bird enjoys. Seeds were meant to sprout, and sprout they will if given any chance at all. Although soaking seeds in an antibacterial solution will give more consistent results, it would be difficult to fail at sprouting.

**Sprouting time:** What could be easier than determining the proper time for harvest by watching for the tiny white tails to emerge from the end of the seed? There are recommendations for sprouting seeds from one to five days, but harvesting when the new sprout first appears is much simpler than timing them. Enzyme activity in the germinating seed reaches its maximum when the sprout is still very small. After the fifth day, enzyme content drops off markedly as the tail grows longer and longer. No matter which seeds we choose to sprout, harvesting when the tail is very short insures maximum nutrition.

As Fred Bauer, aviculturist, author, and owner of China Prairie, a company that markets sprouting supplies says, “We are not growing salad greens or crunchies for sandwiches, which is what most people think of as ‘sprouts.’ We are germinating viable dormant seeds, grains, and legumes—igniting

Photo by Susie Christian



*Note the tender white sprouts emerging from the seeds. The sprouts are much more nutritious than the seeds and birds love them.*



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*Each jar represents one day in the life of a seed to be sprouted. On day one, the jar to the left still has a lot of water in it. The center jar, at day two, shows the seeds well soaked and swollen. On the third day (right) tiny sprouts begin to grow.*

their spark, initiating the life process that is stored there. We want to see just the tip of the white tail of germination.”

**Types of sprouters:** There are recommendations for every imaginable type of sprouter from a simple colander with a soaking bowl, a sprouting bag, varying sizes of glass jars with lids made of screen or mesh, stainless steel pots, rice cookers and three-tier stack trays, to the elaborate sprouting systems available today which make sprouting extremely easy and failproof. Some experienced sprouters believe that glass or stainless steel, as opposed to plastic, are the best containers to use for sprouting.

Depending upon the number of parrots in your flock, experiment until you find the best system for your situation, but do start sprouting in something.

**Seeds, grains, and legumes:** Some people sprout only the seeds that they formerly fed to their birds unsprouted. This is an easy way to increase nutrition without actually changing the basics of the diet. Sunflower seeds are a great seed to sprout first because all birds love them.

Shelled or unshelled, Black-oil or Grey-stripe sunflower seeds will sprout. Simply soak them overnight, drain the next morning, rinse every four to six hours and feed them to your birds when the small tail appears. This easy process will get you started on your sprouting adventure. You immediately will see how much your birds relish living food and that live food does not spoil as quickly as cooked food.

Some parrot owners sprout only a few seeds, grains and legumes. Mung beans, garbanzo beans, also known as chick peas, lentils, alfalfa seeds, radish seeds, and wheat berries are favorites. One may order a mixture of sprouting seeds such as that of China Prairie's AFD-psittacine mix with hulled sunflower seed, whole yellow corn, whole oats, brown rice, Hi Pro wheat berry, whole green peas, garbanzo, mung beans, buckwheat, millet, fenugreek, pumpkin seeds, sesame seeds, quinoa, radish seeds, mustard seeds, and red clover seeds.

**Mixed or separate seeds:** The seed mix from China Prairie detailed above is a popular sprouting mix among aviculturists. This further illus-

trates the point that there are no hard and fast rules about sprouting. Although some experts advocate sprouting only one item per container, a method of assuring uniformity of sprouting time, the China Prairie mixture has a variety of sizes of seeds, grains, and legumes and it sprouts without problems.

You might start by choosing the seeds, grains, and legumes available from your local health food store to discover what appeals to your flock. Later you may want to locate a less expensive source. Many large health markets carry quality seeds in bulk containers at competitive prices. Sprouts cost as little as 20 to 40 cents per pound since each pound of seeds produces three to five times its original weight in living, growing food. There are mail order packages available and online sources for those who purchase products via their computer.

### **Sprouting for Beginners**

The easiest sprouts for beginners are sunflower seeds, mung beans, lentils, and wheat berries. (Other seeds, grains and legumes that may be sprouted are: amaranth, barley, buckwheat, corn, popcorn, millet, oats, rice,

rye, triticale, kamut, spelt, almonds, broccoli seeds, cabbage seeds, kale seeds, fenugreek seeds, teff, pumpkin seeds, radish seeds, quinoa, alfalfa, clover, garbanzo beans, and adzuki beans.)

To begin your sprouting adventure, obtain any of these seeds from a health food store and follow these easy directions for sprouting in a colander or wide pan. A sprouting jar, or large glass jar with a mesh lid held in place with a rubber band, also will suffice.

- **SELECT** seeds that have been grown organically or that are free from all harmful chemicals.
- **MEASURE** one half cup of shelled sunflower seeds, mung beans, lentils or wheat berries. Measuring will become unnecessary once you become accustomed to sprouting.
- **INSPECT** and remove broken and damaged seeds which will not sprout and can cause spoilage.
- **RINSE** well until the water runs clear.
- **SOAK** overnight in pure water (and antibacterial solution if desired). Water level should be well above the top of the seeds to allow for swelling.
- **RINSE** well in the morning.
- **SPREAD** seeds in a colander, glass jar, or pan and place in a dark, well-ventilated area.
- **RINSE** well several times a day.
- **HARVEST** when small tails appear, usually in one day.
- **DRAIN UNTIL DRY** before serving to your birds. Dry sprouts will continue to grow in your birds' dishes during the day instead of spoiling as wet or cooked food might.

**Note:** *Large raw beans such as anasazi, black, fava, kidney, lima, navy, pinto, can cause problems of toxicity and digestive upsets when eaten uncooked and should not be fed raw to birds.*

### **Sprouting Safely**

Many aviculturists soak and rinse sprouting seeds, grains and legumes in pure water only and never have problems with bacterial or fungal growth. Others use an anti-bacterial solution to protect the growing seeds from the formation of harmful organisms. Some use a dilute mixture of water and chlorox. Others use an ozone setup to insure against contamination. The latest popular solution to be used for soaking and rinsing sprouts is Grapefruit Seed Extract, or Citricidal, also sold half-strength by brand names such as Nutribiotic, Agrisept, and ProSeed. Those who advocate the use of an antibacterial soaking and rinsing solution believe that this practice gives more consistently successful results.

To make a solution for soaking seeds and beans before sprouting, use one tablespoon of GSE per gallon of pure water. To rinse sprouts without damaging them, soak them briefly in a GSE solution and drain them gently.

Like other growing plants, sprouts need moisture, proper temperature and adequate air circulation. As they grow, sprouts release carbon dioxide and other gasses and create waste which must be removed by rinsing. Rinsing also keeps them from overheating. If sprouts ever have an objectionable odor or look moldy, discard them, sterilize the equipment, and start over. Never feed questionable or spoiled sprouts to your birds. Use your nose, and as a wise cook once said, "If in doubt, throw it out." Sprouts smell earthy — never rotten or sour. They never should have an unpleasant odor. It is rare for sprouts to spoil if these basic rules are followed:

- Start with quality, whole, unbroken seeds, grains, and legumes.
- Rinse well until the rinse water runs clear.
- Soak in pure water. Antibacterial solutions further assure safety.
- Always handle seeds gently once they have germinated. Rough handling of the delicate new sprouts can damage or kill them and cause spoilage.

- Harvest when the tiny white sprout tails first appear.

- Refrigerate leftover sprouts which will keep for several days. Rinse daily until used.

These general directions apply to any amount of sprouts, from one small colander to many large pans. One aviculturist with whom I spoke said that their sprouts are grown on large frames with special screen. They are the size of screen doors and as the sprouts grow, they are rinsed with a garden hose that is sterilized periodically.

If parrots do not take to sprouts immediately as most of them do, they may be made more tempting by mixing them with a favorite food. Sweet potatoes, nut butters, colorful and flavorful juices, and natural applesauce are a few of the ways to tempt birds into trying sprouts for the first time. Most birds cannot resist corn which can be grated into the sprouts mixture until the birds discover that they like them plain.

Sprouts may well be the single most important food that we can provide our parrots. I have seen firsthand the positive effect that this dynamic food can have on their overall health. However, I do not believe that any one food is sufficient to meet their nutritional requirements nor their psychological need for variety in their diet.

Sprouts also can make a positive contribution to the health of baby parrots. They are sought after by parent birds who often eat all of the sprouts in their dish first. They are then fed to their babies, which may be the next best thing to feeding their chicks the live foods that they might find if they were living in their natural habitat. A new trend in handfeeding is the addition of blended or pureed sprouts to handfeeding formula. The easily digested nutrition and the natural immune-building qualities of sprouts seem to get chicks off to a better start than does formula alone. Aviculturists have reported greater weight gains and earlier weaning of chicks that are fed sprouts. It is my hope that in the not too distant future this living, health-giving delicacy will be an integral part of the diet of all captive parrots. 