

Current Recommendations for Air Purifiers in Avian Households

There has been much debate in recent years regarding the use of air purification devices in our homes. Concurrently, there has been an explosion of units on the market by a wide variety of manufacturers. Unfortunately, all air purifiers do not work the same way and some do not consistently work as well as expected. And, despite effective sales claims, a particular model is not necessarily guaranteed to be effective. This article will briefly review the technology and summarize some important points to consider when selecting an air purifier for your home.

Why Purify?

In general, I recommend air purification for bird households, especially in homes with powder-down species (cockatiels, cockatoos, African greys) or smokers. Birds have an extremely efficient respiratory system and take in more air per body weight than we do. In addition they are very sensitive to inhaled toxins, such as *Teflon*/PTFE and carbon monoxide. In the wild, frequent rain, wind and plant life clean the air that birds breathe. In captivity, our birds are exposed to dust, molds, cleaning chemicals, exhaust fumes, cigarette smoke and their own and other bird's dander that they would not be in their natural environment.

How to Purify?

Since birds are more sensitive to a contaminated air space than we are, it makes sense to keep the indoor air as clean as possible for them. Of course, this will have positive health benefits for everyone! There are two main ways to clean the air: Electronic filtration and mechanical filtration. Electronic filtration uses ionization to create ozone. By this process, particulate material is electrostatically charged and is either trapped on a plate or released back into the room to stick to walls,

furniture or the floor. Although electronic filtration is effective for removing airborne particles and odors from the air, the harmful effects of ozone and possibility to re-inhale ionized contaminants can cause serious lung damage. At the present time, ionizers are not recommended for use in bird households.

The current recommendation for bird households is mechanical filtration, which basically involves the use of some sort of fan to circulate air and a filter(s) to trap airborne particles. The best type of mechanical filtration is the use of a HEPA (High Efficiency Particulate Arrestance) filter. True HEPA filters must be certified and are mechanical filters capable of removing 99.7% of the particles in the 0.3 micron diameter size. This protects the lungs against most molds, some bacteria, chemical fumes, smog, diesel exhaust, pollen fragments, house dust and dust mites. Particles smaller than 0.3 microns are more easily exhaled out of the respiratory system. Because bird airways are smaller than humans, this ensures even more safety for our birds. The best unit will have a minimum of a HEPA +/- a carbon filter but should have no ozone generation (ionizing filtration). Use caution as some units may utilize both HEPA and ionizing filtration. Expect to spend around \$200-300 for a good HEPA unit and cheaper ones usually are more expensive in the long run due to higher cost for replacement filters. Here are the important points in selecting a good HEPA unit:

1. The unit should have 2-8 air changes per hour
2. Purchase a unit that has the ability to clean a much larger area than is needed, which will permit you to run at a lower speed (decreasing noise level and increasing efficiency)....square footage covered is rated for high fan speed.

3. Best purifiers require no additional tools to replace filters and have a filter change indicator light to determine when to change filter
4. Well-constructed purifier will have a pre-filter, gas filter, HEPA filter and post-filter.

Here are some examples of several high-quality, safe, cost-effective HEPA units available (as of November 2007). You can see the specs and purchase from www.allergybuyersclub.com. There are also good reviews and comparisons as well as an idea of replacement filter costs on this site:

1. *Austin* HEPA Standard or Jr models (depends on size of space needed)
2. *Blueair* 201
3. *Hunter QuietFlo* 216
4. *Plasmawave* 4 speed Digital or 5 speed Analog

Other Ways You Can Keep Your Air Healthy

1. Make sure you routinely clean/replace heater and air conditioner filters in your home.
2. Have your home tested for carbon monoxide leaks and never run a generator in the home or attached garage.
3. Avoid the use of heavily scented candles and plug-ins near birds
4. Make sure windows are closed during the summer if you will be spraying plants or treating lawn with any fertilizers or pesticides.
5. Do not use non-stick cookware, such as *Teflon* or *T-fal* pots, pans, etc.
6. Maintain a "smoke-free" bird room
7. Ask for Material Data Safety Sheets (MSDS) from any professional cleaning or home improvement service. Any reputable company should be aware of what chemicals they are using and insist on having your veterinarian review the MSDS prior to the job, even if you are told by the salesman the products are safe. If there will be any risk of inhaled irritation to humans, make sure birds are removed from the premises during

cleaning and that the home is well-ventilated prior to returning your birds.

8. Avoid the use of corn-cob type bedding for cage substrate as it can facilitate the growth of molds such as *Aspergillus* fungus. Newspaper is preferred because it is cheap, hygienic and recyclable and you can monitor your bird's feces better.
9. After significant water damage, have an inspector observe for signs of mold growth, such as *Stachybotrys* fungus. Remove birds from home if there is to be any on site mold removal.
10. Bathe your birds with plain water frequently to help remove dust, debris and dander from feathers and help moisten nasal passages.
11. Vacuum and dust periodically, making sure not to spread dust into the air during the process. Remove birds from the room if possible and consider using fine filter (hypoallergenic) vacuum bags. Make sure vacuums are in good working condition so as to not become dust spreading machines.
12. Avoid the use of bleach, ammonia or other caustic/aromatic cleaning compounds around your birds. Remove birds from room if needed during cleaning and ventilate well. Do not use *Febreze* products in rooms with birds.
13. Live plants in the bird room are useful for cleaning the air. Make sure they are bird-safe if birds may have access. Spider plants are a good option and can be hung and are easy to care for. Don't use any chemicals on the plants and make sure potting soil is not treated.

For More Information

1. Brown CJ. Air Purification Systems. *Proc Mid-Atlantic Assoc Av Vet.* 2007;48-57).
2. <http://www.aircleaners.com/difference.phtml>

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