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Wood Shavings

The Problem with Cedar and Pine Shavings as Pet Bedding and Litter

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Cedar and pine shavings are commonly available pet bedding products. However, there has been much discussion over the safety of these beddings among exotic pet owners and advocate. Are these beddings really dangerous for the animals for which they are intended?

Cedar and pine became popular for pet bedding material because they are good at controlling odor and have some natural insecticidal properties (they kill or repel bugs, especially cedar). These softwood shavings smell nice due to the volatile compounds (e.g. aromatic hydrocarbons, phenols) that are given off. Unfortunately these compounds have been implicated as a potential health risk, especially with regards to respiratory problems (asthma, inflammation, allergic responses) and changes in the liver.

Many of the studies on wood toxicity have actually been conducted on humans, who are exposed to these woods and their by products in the wood product industry (such as those who work in lumber mills who are exposed to lots of wood dust), and these studies often compare the incidence of disease in workers in the wood product industry compared to other workers or the average population. Obviously, this is a much different type of exposure compared to our pets.

Studies of laboratory animals have shown fairly dramatic changes in liver enzymes on animals housed on cedar bedding. This in turn can effect the metabolism of drugs including anesthetics, but there is not much information on a direct link between these changes and disease or clinical symptoms. The changes in liver enzymes can be problematic for research animals, but the impact on pets hasn't really be studied, as far as I can tell.

Bottom Line

Based on the studies that implicate the compounds from cedar in allergic and respiratory diseases as well as the impact on liver enzymes, it seems it may well be prudent to avoid cedar shavings as bedding or litter, especially since alternatives are available.

With pine shavings, the problem isn't as clear cut. Pine shavings emit similar volatile compounds as cedar, but the risks aren't clear. It is thought that heat treating pine shavings may reduce the levels of aromatic hydrocarbons that have been implicated as a potential concern, so that products such as kiln dried pine are safe (many pet products are heat treated).

Since the information about the problems is circumstantial and hasn't been evaluated in the context of health problems in exotic pets, I'm hesitant to make firm recommendations. That said, it has been my personal choice to avoid cedar; I have used pine in the past, though recently I have been trying out many of the alternatives available on the market instead.

Many Other Options Available

The concerns over pet bedding safety seem to have led to a bit of an explosion of alternative bedding products on the market. In terms of wood shavings, aspen is a good option that is widely available. There is an increasing number of other litter or pellet type products on the market now, which are appropriate for use as bedding or in litter boxes. The best option depends on the type of animal and what the litter is used for. Some of the harder pellet products might be better used in the litter box of a ferret or rabbit, while the softer types of bedding/litter are good for the smaller pets that need their cage lined. However, even some of the pelleted products can be used as a substrate/bedding for rodents, especially as cage liner with some softer bedding provided as a top layer.

Some of the newer alternative include paper-based pellets (absorbent and hold together so the wet parts can easily be scooped out), litters made from a variety of other organic materials (e.g. cherry/maple wood, aspen wood or bark, grain by-products, wood pulp fibers), and even paper strips (which are soft, but not very absorbent). Another often overlooked alternative is alfalfa pellets (e.g. rabbit food) which are cheap and fairly absorbent. For a compilation of some of the alternatives that are fairly readily available depending where you are see:

- [Alternatives to Cedar Shavings](#) - a concise look at some alternatives with links to manufacturers where possible.

References and Recommended Reading

- [Evaluation of Cage Micro-Environment of Mice Housed on Various Types of Bedding Materials](#) - a study published on the American Association for Laboratory Animal Science site, evaluating the environment, including ammonia concentrations, in cages with various beddings (surprisingly, CareFresh Ultra, my favorite bedding, resulted in the highest levels of ammonia).
- [The Toxicity of Pine and Cedar Shavings](#) by Debbie "The Rat Lady" Ducommun (scroll down to near the bottom to find he product list). An excellent list of products (including materials), with manufacturers and contacts and comments can be found toward the bottom of the page.
- [Cage Hygiene, Healthy Litters, and Beddings](#) by Debbie Ducommun - more general article also touches on the dangers of cedar and pine but also on cage hygiene in general, and goes into more detail on some bedding alternatives.
- [Litterboxes and Liver Disease](#) by Marinell Harriman - a discussion of the anecdotal evidence that pine shavings used as litter caused serious liver enzyme elevations in rabbits, and a discussion of alternative litters.
- [The Truth About Pine Shavings](#) by Corinne Fayó - a critical look at the studies on cedar and pine shavings and their tenuous link to clinical problems in small pets.