

Wildfire Smoke Ready – Cleaning the Air in Your Home

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Say you know smoke will likely head our way this summer and you don't want to breathe it. What do you do? Clean the air in your home! In this column, I will cover how to select portable air cleaners (PACs) (also called air purifiers) and make DIY fan/filter combos to keep your indoor air healthy during smoke season.

First, a note about filters:

The best filters are HEPA filters. They are highly efficient at removing the tiny particles we're most concerned about in smoke. HEPA filters are used in PACs and some commercial settings such as clean rooms.

Furnace filter efficiency is based on the MERV scale. The higher the MERV, the better the filter. When using a furnace filter to clean the air, aim for a MERV 13 (a MERV 11 or 12 will do in a pinch). If you select a 3M or Honeywell filter, their highest rated filters are MERV 13 equivalents.

Next, some money saving tips:

1. NorthWestern Energy customers who purchase an Energy Star air purifier (e.g. a HEPA PAC) are eligible for a \$100 rebate! More information is available here: montanawildfiresmoke.org/hepa-filters.html
2. Stocking up on furnace filters? Save money by purchasing them in bulk online! A single MERV 13 filter can cost up to \$30, but you can get that down to less than \$10/filter if you buy in bulk. Stock up or split the purchase with friends or family!

Now, here's how to select a PAC:

1. Make sure it uses a true HEPA filter. You need to capture particles smaller than 1 micron in diameter. "HEPA-like" isn't going to cut it. Also, a note about HEPA filters: These filters capture all sizes of particles. They are certified based on their efficiency at capturing particles 0.3 microns and larger, but they capture the smaller particles, as well.
2. Make sure your PAC is sized correctly for the room that it's in. For wildfire smoke, use the clean air delivery rate (CADR) on the box as a guideline. You want to filter all the air in the room multiple times per hour, and if the PAC is undersized, you may not get the cleaning you were aiming for.
3. Before purchasing a PAC, investigate the cost of replacement HEPA filters. You can oftentimes find off-brand replacements for less than the original manufacturer charges.
4. Make sure you are okay with the amount of noise the PAC creates while on its higher settings. If you turn the PAC off because it's noisy, it's just a huge expensive paperweight.
5. Some devices on the market generate ozone, which is a human health hazard. Check the PAC you're looking at against the California Air Resource Board's approved air purifier list: <https://ww2.arb.ca.gov/list-carb-certified-air-cleaning-devices>.

Did you know a HEPA PAC is, at its heart, a fan and a filter? Know what's also a fan and a filter? A box fan and a furnace filter! If you're feeling crafty, you can make your own air cleaner!

1. Use a box fan manufactured since 2012 (older box fans sometimes catch on fire).
2. Attach a MERV 13 furnace filter to the back of the fan. Or, if you're feeling fancy, use multiple fans and some cardboard to make a triangle or cube off the back of the fan to increase the amount of air you can clean at a time! There are loads of tutorials available online if you search "DIY air cleaner."
3. The basic DIY fan/filter combo is good for a room about 200 sq ft.

Tomorrow, I will cover whole house cleaning with furnace fans and central air handlers.

As always, be sure to check out www.MontanaWildfireSmoke.org for more information!