

Fans

By Dan Phillips

As exciting topics go, fans tend to be relatively low on the scale. Romantic novels and mysteries gallop along faster than a speeding bullet, but discussions of fans tend to make us glass over, yawn, and take a nap. So, go ahead. Yawn, glass over, and then take a nap. When you wake, skip this first paragraph, but continue, nonetheless. I'll be discussing your wallet as well.

Fans move air around. And when we're savvy homeowners, we know that ceiling fans will help us in the summer AND in the winter. Not only do they assist in achieving the target comfortable temperature in a room, but represent a whopping saving in energy usage.

Hot air rises. And during the chilly days of winter, in order for us to feel comfy with our thermostat set at 68 degrees, we can end up heating the upper portion of our room to 78 degrees before we feel the 68 degrees down where we are. If our ceilings were located six feet above the floor, it might be different. But typically, a ceiling is eight feet, or higher.

The various temperatures of air in a room are stratified—pretty much like a layer cake. There is a stack effect—the hot layers are close to the ceiling (if we have good insulation in the ceiling), and cooler layers are close to the floor. But a ceiling fan changes all that. Ceiling fans stir the layers vertically, so that, in the winter, the warmer air near the ceiling is brought down to where we can feel it. This also evens out what our thermostats register, and our furnace doesn't cycle as often.

Most ceiling fans have a slide switch on the housing of the fan that reverses the direction of the rotation. In the winter, we want to scoop the cooler air off the floor, and send it toward the ceiling. This cooler air displaces the hot air near the ceiling, which is then forced toward the floor, giving the entire room a good mix of the temperature we want. This can result in energy savings of at least 10%.

In the summer, we want to have the fans blow down. While this scoops the warmer air from the ceiling and sends it toward the floor, there are still two advantages. The breeze we feel creates a “wind-chill” effect, and we feel cooler, and once again there is a vertical mix of the stacked layers of temperature, resulting in overall comfort. In the summer this can reduce our air-conditioning bill up to 40%.

So, twice a year—perhaps when you have your bi-annual check of your air conditioner or your furnace—switch the direction on your ceiling fans. Or maybe you can do this when you adjust your clocks for daylight savings.

Of course the second part of the equation is to have good insulation. Crawl into your attic and measure your insulation. If it is about six inches thick, increase it to twelve.

This will be money well spent, and quite likely will pay for itself in one year. Another good strategy is to check windows and doors for infiltration. When your unit pumps air through your house, it is also pumping conditioned air outside of your house. So, unless you are also trying to improve the life of the birds and squirrels, weather-stripping is a good strategy.

If you don't have ceiling fans in your house, consider getting them. But, not all ceiling fans are created equal. Do a little comparison shopping. You want the highest CFM (cubic feet of air per minute), for the lowest wattage. Typically, energy efficient fans are rated with the Energy Star rating. Look for this designation.

There is yet another fan system that practically every house had before air-conditioning—the whole-house fan, or the “attic fan.” Ask any old timer about attic fans and he will regale you with stories of summer time evenings, where all the windows were flung open, the attic fan was started, and there was a cool breeze throughout the house. Of course, in East Texas where summer usually brings humidity, it also brought humid air into the house. But a breeze was a breeze, and they were thankful for it. These are still widely available, and are also useful in evacuating the air in the house when you burn dinner.

In the absence of ceiling fans, or attic fans, box fans are also useful. They also move air, but not quite as efficiently. Nevertheless, they're cheap, and provide a bit of relief.

During chilly weather it doesn't seem appropriate to talk about cooling, but don't overlook simply using a hand fan when the hot weather comes. It gives your hands something to do while you're whining about the heat, and they are quite efficient. These are very conveniently made with a manila folder, a legal pad, or a magazine. If you want to be stylish, you would reach for your accordion-type, antique Japanese fan, or the cardboard-on-a-stick that you got at the county fair last year.

Old movies feature people cooling themselves at the race track with hand-fans, dressed in their finest. So you don't have to feel bottom-echelon if you choose to use these. In fact, instead of turning on your air conditioning, you could simply pass out hand fans to your guests at a dinner party, reminding them that these are not party favors, and are to be left upon departure. Or, on the invitation, you can put a post-script: PS: Bring your own fan. You might achieve a bit of notoriety. This, incidentally, can also be quite stylish.

