

# Trees useful in preventing wind damage

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For anyone who enjoys living in a climate with changing seasons, our high desert is a great place to be. The skies are blue. The air is clear. We almost never get that uncomfortable kind of humid heat that nearly everybody else across America gets in the summer.

And even when it snows it's fun. It's exciting. It's beautiful. And, just when the novelty is about to wear off, the white stuff disappears.

It would be paradise here except for those almost unbearable April winds. If you create windbreaks in your landscape, you don't have to hide inside your house, your car, the office or the mall the way Texans do in July. You can enjoy your landscape the whole year through.

Anyone designing and installing a landscape plan in northern New Mexico should try to reduce the ravaging effects of our winds. It just comes with the territory. Not only do strong winds disturb one's

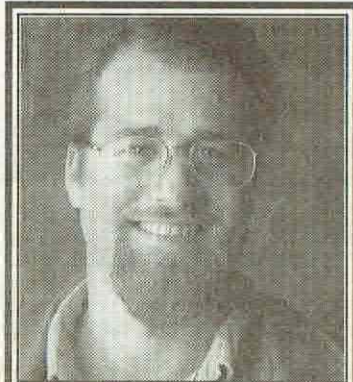
peace of mind, spread pollen and generate hazardous dust, but they erode soils, stunt plant growth and cause the moisture in plants and soil to evaporate more rapidly.

There are two basic ways in which windbreaks reduce the immediate effects of wind.

Impermeable windbreaks abruptly deflect wind. Permeable windbreaks diffuse and gently deflect wind.

Impermeable windbreaks, such as walls or tightly built coyote fences, can work for property owners concerned only with deflecting wind away from small areas such as courtyards, porches, doorways and portals. The problem is that this kind of windbreak actually increases the wind's net negative effects.

When wind is abruptly deflected from one place to another, the deflected wind's collision with the prevailing wind will produce severe turbulence nearby. Therefore, especially if improperly placed,



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your windbreak can actually create more wind problems than you had at the outset.

Permeable windbreaks, such as rows of trees, can diffuse and deflect wind and reduce its negative effects. The main drawback of this kind of windbreak is that it usually takes a period of five to 15 years for trees to start diffusing significant amounts of wind.

If improperly designed, even permeable wind-

breaks can create localized turbulence. Be careful to plant your trees perpendicular to the prevailing wind. Avoid excessive gaps between trees. And make sure winds do not blow under the canopy of your trees toward people and plants.

In order to cultivate a permeable windbreak, plant four zigzagging rows of trees. Starting from the leeward side, the first row of trees should consist of species that stay small when mature. The second row should be medium-sized species and the third row should be the tallest species. The fourth row should have a mature height that reaches higher than the medium-sized species but lower than the tallest species.

The effect of designing a windbreak in this way is to direct wind up and over a house, a garden, or even an entire piece of property.

Make sure that you choose species that are the proper type. For example, if you are primarily concerned with winter winds

or spring winds, evergreen species should be used because they will deflect wind more effectively than the bare branches of deciduous trees.

When planting a windbreak, it is also important to apply the permaculture principle, "Make every element in a system perform more than one function." Trees should also be seen as providers of shade, wildlife habitat and beauty. This type of windbreak can also be a great source of firewood, an excellent erosion-control system and a wonderful way of increasing the value of a piece of property.

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