

Growing tunnels, not wind tunnels

Written by Easy Green Energy

Wednesday, 12 May 2010 15:44 - Last Updated Wednesday, 12 May 2010 16:06

Protect yourself against the damaging effects of wind, but also profit from the natural occurrence of air flow to modulate temperature. You want ventilation, and temperature control, but the trick is preventing any wind damage along the way.

Through ventilation of the ends and/or side walls, you can not only regulate the temperature but you can also manage the relative humidity in the tunnel. Single bay high tunnels can be oriented perpendicular to prevailing winds to accommodate maximum air flow if structure has roll-up sides. However, it is recommended that in most instances, especially with multi-bay tunnel setups, the tunnels should be orientated parallel to prevailing winds. This is because tunnels, if not carefully placed perpendicular to prevailing winds, typically receive the most damage

What's the worst that can happen if you don't? Well, if you don't take wind into consideration, quite simply your tunnel structure could be lifted out of the ground. The lightweight hoop structure acts like an aeroplane wing that creates uplift when air passes over it, when the uplift exceeds the dead load... you have take-off. Your two key protectors is the depth of your posts (the experts say at least 600mm) as well as making accommodations for wind.

Prevailing winds are quite easy to map if you plot the terrain and topography. We use these elements because windbreaks, trees and buildings moderate and redirect wind, which means each specific site will have their own wind map. Generally sites located within 5km of large bodies of water or the coastline are exposed to very severe winds.

Growing tunnels, not wind tunnels

Written by Easy Green Energy

Wednesday, 12 May 2010 15:44 - Last Updated Wednesday, 12 May 2010 16:06

If you want to see the effect of wind, or self-site cheap-and-easy, tie ribbons (about 2m) to poles (at 6m clearance from surrounds) and plant them in a grid over the area you're mapping. Find North and plot the movement and direction of the wind. If you see the ribbons flapping like a Russian gymnast going for gold, this is indicating turbulence which is damaging.

When picking a spot for your tunnel, make sure you account for turbulence and are shielding it from harsh winter wind and exposing it to the summer breezes, when you need the ventilation most.