



63176 Nels Anderson Rd, Bend, OR 97701

(541) 699-1602

dave@hortitechdirect.com

www.hortitechdirect.com

In regards to the noise concern for Sama's ventilation:

Several factors give us confidence that ambient noise will not be a disturbance to our neighbors, particularly regarding the perception that greenhouse fan will create a lot of noise. Each greenhouse will have only one fan that exhausts to the exterior. Each fan will be mounted on the western side of each greenhouse facing towards the forest. At the time of construction, we will select a 4 or 5 blade model from a respected manufacturer that offers the lowest noise levels. It is generally accepted that the greatest noise emanates from airflow restrictions and systems that use fans as part of the system that also uses ducting to move air throughout the structure. As Sama will not be connecting these fans to any ducting in the greenhouses, the associated humming from ducting, that causes the greatest noise disturbance, will be non-existent. Additionally, fans will use variable frequency drives that further reduces noise. Further, fans will be thermostatically controlled and only turn on during the hottest periods of the day and most typically will not turn on during the cooler evening and nighttime. Part of an energy conservation program calls for a schedule when only certain fans will be turned on, thus further minimizing the cumulative noise of all running at once. A question was raised about the potential for use of a plenum but in our experience, plenums are primarily used with heating systems. Our fans will use direct drive motors which are far quieter than belt drive units. The situational topographic configuration of the buildings' placement on the site will serve to further reduce the way that sound will travel. The majority of the buildings will be erected in a cut area that is at a lower elevation than the adjacent ground and therefore sound will be buffered and not be able to travel in a straight line-of-sight.

Thank you.

David H. Ross

Owner: Hortitech Greenhouses

Owner: Sama Productions, LLC
