

## HOW TO APPLY swingfog® FOG GENERATORS IN GREENHOUSES

1. House has to be tightly closed. It should be kept closed during the treatment and for approximately one hour after treatment was finished.
2. In case internal ventilators are installed, they have to be switched off during application, and for at least one hour after application. If it is possible, the house should be kept closed and ventilation stopped overnight.
3. Best time of application is late afternoon.
4. Before a thorough ventilation is made, the greenhouse must not be entered without wearing proper protection clothes, breathing mask and goggles.
5. We strictly recommend to install our patented high performance fogging tube (optional accessory) which was specially developed for the application of water-based fogging liquids.

### 6. Calculation of quantity to be applied:

We recommend 2 up to 6 litres total quantity of the fogging liquid for 1000 m<sup>2</sup>.  
The calculation is as follows:

Quantity of the chemical preparation  
according to the prescription of the  
manufacturer of the preparation  
(in ml or g per 1000 m<sup>2</sup>)

=

x

grams or millilitres

+ Water

=

y

millilitres

+ Anti-evaporation agent  
e.g. agricultural spraying oils which are  
emulsifiable with water or glycols

=

10%

of the total fogging liquid

**TOTAL FOGGING LIQUID**

**2 l, 3 l, 4 l, 5 l, or 6 l**

**per 1000 m<sup>2</sup>**

#### IMPORTANT NOTE

The addition of an anti-evaporation agent to water-based fogging liquids is necessary to prevent a too fast evaporation of the tiny aerosol droplets.

If the relative air humidity is higher than 90 %, there is no necessity to use an anti-evaporation agent.

If the relative air humidity is slightly below 90 %, use 5 %, if air humidity is much lower, use up to 10 % anti-evaporation agent.

Always use the quantity of the chemical preparation, which is prescribed by the manufacturer of the preparation or the quantity which is normally used to treat 1000 m<sup>2</sup>.

Almost all chemical preparations, which can be sprayed, can also be fogged with a **swingfog®** high performance fog generator.

Always follow the local law and rules when selecting a chemical preparation.

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Best results are achieved, when approximately 3, 4, 5 or 6 litres for 1000 m<sup>2</sup> are applied. The total fogging liquid should never be below 1 litre.

The following calculation is done for a greenhouse of 8 x 60 m = 480 m<sup>2</sup> and an application of 5 litre total fogging liquid per 1000 m<sup>2</sup>.

- Calculation of the total fogging liquid for a greenhouse of 8 m x 60 m = 480 m<sup>2</sup> on base of 5 l per 1000 m<sup>2</sup>

$$= \frac{5 \text{ litres} \times 480 \text{ m}^2}{1000 \text{ m}^2} = 2.4 \text{ litres for } 480 \text{ m}^2$$

(Other greenhouses dimensions have to be calculated accordingly.)

### 7. Calculation of fogging time, when a swingfog® SN 50 with dosage nozzle 1.2 is used and an output quantity of 5 l per 1000 m<sup>2</sup> = 2.4 l for a greenhouse of 480 m<sup>2</sup>

- Output of swingfog® SN 50 with dosage nozzle 1.2 = 27 litres/hour =  $\frac{27}{60}$  = 0.45 litre/minute

(Calculation for other dosage nozzles have to be done accordingly)

- Fogging time to apply
 
$$2.4 \text{ litres for a greenhouse of } 480 \text{ m}^2 = \frac{2.4 \text{ litres}}{0.45 \text{ l/min}} = 5.33 \text{ minutes} = 5 \text{ minutes and } 20 \text{ seconds}$$

It is always important to use the correct quantity of chemical preparation per 1000 m<sup>2</sup>.

The carrier quantity (water) however can be flexible as long as it is in the range of 2 up to 6 litres per 1000 m<sup>2</sup>.

The total quantity of fogging liquid should never be less than 1 litre per 1000 m<sup>2</sup>. It is also important, that the total quantity of fogging liquid is applied, also if the application time takes longer or shorter than calculated because of different viscosities of the chemical preparation.

### 8. Treatment of houses with low growing plants (flowers, low growing vegetables)

The above described greenhouse of 8 m x 60 m = 480 m<sup>2</sup> can be treated from outside the house, when fogging is done through an opening in the entrance. When the house is longer than 60 m up to 120 m, treatment should always be done from both ends of the house. 50 % of the total fogging liquid should be applied through an opening in the entrance and 50 % through an opening from the other end.

By this measure an even coverage is achieved.

In case of longer houses, treatment should be done inside the house by walking with an even speed from the end of the house to the entrance. The walking speed has to be adapted in a way that total fogging liquid, which was calculated for the house, is applied when reaching the entrance.

According to the above mentioned example, 5.33 minutes (= 5 minutes and 20 seconds) for a distance of 60 m are needed.

The swingfog® machine should be carried in a way that the fog outlet is directed behind with a slight downward inclination of the fogging tube. That means moving forward in direction of the entrance while fogging behind.

Attention: In such cases, proper protection clothes and a breathing apparatus have to be used.

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### **9. Treatment of houses with high growing and dense vegetation (tomatoes/cucumbers)**

Such houses have to be always treated from inside, by moving evenly from the end of the house to the entrance, as described above in 8.

**10. Large greenhouses can be treated from one position in sections of approximately 900 m<sup>2</sup> up to 1000 m<sup>2</sup>. Ideally by fogging alternate one section to the right and one section to the left from the aisle (see attached illustration).**

**11. Always obey the safety precautions which are given in the instruction manual of the machine.**

