Synergy Shield MCH Double Bubbles

MCH bubbles have been successfully used for many years to protect Douglas-fir and Spruce trees from Douglas-fir beetle (Dendroctonus Pseudotsugae) and Spruce beetle (Dendroctonus rufipennis).

So why did we change a good thing? Well, continued research by Darrell Ross and his collaborators has shown that higher doses of MCH and greater spacing between point sources* result in the same protection as conventionally spaced lower doses. We recognize that a significant expense of using this highly effective product was the cost of walking through the woods applying so many bubbles.

Based on this research, Synergy developed and registered a “double bubble” containing **one full gram (1000mg)** of MCH which is an increase of 20% over traditional bubbles with only 400mg. This means that only half as many MCH bubbles are required or, 15-20 Synergy Shield MCH per acre rather than 30-40 conventional MCH. Double bubbles were designed to decrease labour, and therefore the cost of using MCH. Additional benefits are that fewer bubbles are easier to apply in difficult terrain and less debris is left behind.

A Synergy Shield Double Bubble is not the same as two conventional MCH bubbles. An additional 20% extends field life, which, in times of climate change is added insurance when beetle flight period is prolonged, It also provides a wider application window so that bubbles may be deployed earlier to protect against early beetle emergence or a second flight.

State of the art production equipment, allows us to produce bubbles quickly and efficiently. This translates into cost savings for our customers. Synergy Shield MCH double bubbles are less than the cost of two old fashioned bubbles. This year we are offering special introductory pricing to our Canadian customers.

More information or to obtain a quote please visit our website: http://semiochemical.com/mch/

Or, call or email us for a quote or if you have any questions about MCH.

*point sources: the distance from one bubble to the next

Synergy Shield Double Bubble vs single bubble

If you would like to read the publications click here:

http://www.ncbi.nlm.nih.gov/pubmed/19133463 and

http://www.bioone.org/doi/abs/10.1603/0022-0493-95.4.778

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See page 2 for tips and tricks using MCH.

When and how to apply

MCH is most effective when it is applied two weeks before beetles begin to fly. This is usually in late April or May for fir beetle and late May/June for Spruce beetle. As a beetle's flight can last a while, MCH is still effective if deployed after the initial emergence. The amount of MCH released is temperature dependent; the warmer the air, the higher the release rate. Wind speed and direction determine where the MCH plume will go. It is also important to note that insects can only 'sense' MCH from a downwind position. Use the prevailing wind to your advantage, if possible.

Application rates for Synergy Shield MCH Double Bubbles

Individual trees and areas 1 acre or less:

1. Place 1 or 2 Synergy Shield MCH on each tree depending on the risk of attack and size of tree.
2. For large trees over 60 cm (24 inches) in diameter (at breast height), add 1 Synergy Shield for each additional 20cm (8 inches) diameter, 1m (3 feet) above previous MCH.

Forested stands 1 acre of more:

1. For low to moderate beetle pressure, place 1 Synergy Shield MCH per tree in a grid pattern using 14m (46 foot) centres. You will need abut 15-20 bubbles.
2. For high beetle pressure, place 1 Synergy Shield MCH per tree in a grid pattern using 10m (32 foot) centres.

Maximum dose - 40 Synergy Shield MCH/acre

*Centres means from the centre of one tree to the centre of the next.

Useful tips:

1. DO NOT PUNCTURE THE RESERVOIR (BUBBLE). Puncturing the bubble will release the MCH right away. The plastic membrane is a special plastic that allows the MCH to disperse into the area slowly, over several weeks;
2. If you do not have a tree conveniently where you need one, apply MCH to another type of tree, a fence, a stump, or where you can to maintain spacing;
3. If you plan on using MCH from one year to the next, clip a corner so you can tell which ones are from last year;
4. Keep unused MCH bubbles in an airtight, non-plastic container in the freezer for use next year;
5. For best results, remove infested trees off site well before beetle flight. **Do not trim trees during the flight season.** The scent of distressed trees is very attractive to beetles;
6. If possible, keep your trees well watered;
7. It does not matter if the bubble faces inward or outward;
8. Try to hang bubbles on the north side. There is evidence that beetles prefer to attack on the north side of the tree as they may be less visible to predators and are out of the hot sunlight.

Call or email us if you have any questions.