Recommendations - Anti hail nets

Anti hail nets

Importance of Anti hail nets:
- To minimize flower drop.
- To minimize fruit drop.
- To minimize fruit damage.

Requirements for Anti hail nets:
1. UV stabilization: Anti hail nets should be properly UV stabilized. Since the nets are to be used under fully exposed conditions, and need to be used consistently over a number of years, proper UV stabilizing of nets would ensure long service life, thereby saving recurring expense to growers required for frequent change of nets. Ideally, a good anti hail net should not give less than 5 years service life.
2. Weight: weight, commonly referred to as “gsm” (weight in grams per square meter), of anti hail nets is very important. It is very important to strike a balance between a very low gsm and very high gsm net.

A very low gsm net, nets with gsm less than 50 have been classified as low gsm nets, though considerably inexpensive, will have low load bearing capacity, will tear easily and may have very little field life.

A very high gsm net, nets with gsm over 80, will not only be expensive, but will also exert a lot of extra load on the already fruit heavy plant. It will also need a very strong and expensive structure to support its weight. It will be also take more effort to install/remove the net because of its weight. The most damaging aspect of a heavy gsm net is, that, under severe wind conditions/ storms, it will sway the trees very vigorously, resulting in heavy fruit drop, and could also result in collapsed structure on which the net has been put. Heavy gsm nets also tend to cut off precious light which results in stunted growth.

World over, medium gsm nets with gsm ranging between 60 and 80, have found favour with manufacturers and users alike. Medium gsm nets have been found to be:
   I. Affordably proceed;
   II. Easy to handle, install and remove;
   III. Need relatively inexpensive structures, even cheap bamboo structures, to support nets;
   IV. Do not harm trees and structures under excessive windy conditions;
   V. Do not exert undue load on fruit heavy trees.
   VI. Do not cut off light which is so important for photosynthesis and plant growth.

3. Colour: Colour of nets has been a very debatable issue. World over, nets of a variety of colours viz. natural white, milky white, red, black, green, blue, etc. have been tried under different conditions. However, most coloured nets, except natural white, have exhibited different results under different conditions, thereby denying any one colour the Crown.
Further, long term effects of the coloured nets have not been established, even where short term benefits have been observed. Since, the growing conditions vary across the world, even within countries themselves, and that there is no conclusive evidence in favour of any particular colour, it would be prudent to use neutral colour nets that would not affect the growth of the plants in any manner, specially over long periods. Further, coloured nets tend to cut off considerable light falling on the trees. Since, light is the most important factor affecting growth of plants and fruits alike, any cut in light percentage could, and would, adversely affect plant growth. The shade factor should optimally be between 15-20%. Most coloured nets cut off light by 25-40%. Hence, use of neutral colour nets, i.e. natural transparent, is advisable.

4. Weave/Design: A host of weaves and designs have been tried ever since anti hail nets have been put into use. Commonly used weave patterns are Square/ rectangular and cross over/ angular.

Most common weave pattern is square/ rectangular. However, this pattern has a draw back. If the mesh is wide, it holds hail very easily, resulting in heavy accumulation of hail within a short span of time. If the mesh is small, the net becomes too heavy and cuts off light to the plant below. Further, these nets have a different weave which frays on cuttings. The fabric runs after violent storms and also tends to lose weave, resulting in huge gaping holes, on accumulation of heavy load of hail. This pattern requires simpler low technology machines. However, the results are not very encouraging.

Cross over/ angular knitted weave has a distinct edge over the square/rectangular weave pattern. In this case the weave pattern allows hail to slip down and does not allow the hail to accumulate on the nets. There is no cut propagation as the knitting does not allow the fabric to run or fray. However, this process requires sophisticated expensive machines. Cross over weave nets has a higher load bearing capacity as compared to other weave patterns.

5. Physical & Mechanical properties: The yarn from which the nets are manufactured should be extruded from specific grades on machines capable of producing filaments of uniform thickness. Only such yarn can have high physical & mechanical properties. Low quality raw material/ machines would produce low quality filaments resulting in poor quality nets.

6. The source: The most important factor affecting quality of nets is the originating source i.e. the manufacturer offering the nets. A good manufacturer of nets should:

I. Be a manufacturer of repute and standing.

II. Have required machinery, trained staff, testing facilities, R&D facilities, financial capabilities, etc. to match the product requirement.

III. Have adequate experience of manufacturing the product.

IV. Have access to latest technology required for upgrading the product to International standards as and when required.

V. Should have adequate stocks, including buffers, available to meet product demand at any point of time.
VI. Should be certified for quality by bureau of Indian Standards (wherever applicable), ISO, etc.

VII. Should preferably be exporting as it adds to the manufacturers experience, expertise, understanding to newer technologies and products/ product specifications. It also makes him more flexible in meeting demands for newer products and adhering to deadlines besides improved packaging and presentation of the products offered.

VIII. Should preferably be linked to Bureau of Indian Standards for formulating product specifications.

IX. Should preferably be a recognize testing centre for plastics technologies

X. Should have a defined distribution network to cover all areas of operation. Should have qualified and experienced DISTRIBUTORS in the area where ever the product is required to be marketed.

XI. Should be prompt in offering “After Sales Service”, be quick in responding to complaints and prompter still in replacements, it at all required.

XII. Nets should be manufactured using only monofilaments because of its higher strength and durability.

XIII. Monofilaments, the most important part of Anti hail net, should be manufactured in house.

XIV. Should preferably be an Indian company.