

What determines **good & bad** flower growers

There are specific pests and diseases that affect different flower growing regions and at different seasons. How one is supposed to manage these problems is a quagmire since it requires a delicate balancing; making critical decision of how to control them, what to control and also the timing.

Higher altitude areas e.g. Kinangop are about 2600m above sea level, with high rainfall amount averaging 2300mm. They area is characterized by extreme cold and frost. Low altitude areas e.g. Athi River, temperatures are high as 50 degrees.

In low altitude areas one of the major problems is spider mites, lady birds, caterpillars, whiteflies and very minimal fungal diseases because the availability of water is very minimal. In kinangop for example the excess water brings issues and so their

problem is fungal mostly while in low altitude areas the pests are the major problem.

How to tackle these issues is what is fiddly. Sometimes temperatures of the day changes such that you find that it is very hot during the day and very cold at night. This means that above everything else one has to

understand the variety of the rose he is growing and with a bit of experience one should anticipate problems as they come.

Right now in Athi River, where Harvest Ltd is situated, is a season for spider mites, caterpillars and whiteflies but very little of fungal diseases. The windy conditions are

favorable as powdery mildew is concerned. There are rare chances of having powdery mildew, though it does not necessary mean it can't occur since it only require little fluctuations in temperature and some dew in the morning and not only rainfall. The water film on top of flower's leaves is enough to

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encourage powdery mildew spores generation. Later in the day when the weather becomes dry and windy, spreading of the spores occurs as this allows spores pollination and thus powdery can occur while other fungal diseases are not occurring.

Downey mildew requires a bit of time to germinate on the leaf like say 4 hours. If an agronomist activities are such that they are providing humidity even when it is dry, then there are chances of getting downey mildew e.g. reckless feeding and a lot of watering in the evening. As the temperatures falls down at night, where there is a sharp contrast in temperature variation between day and night, if the air inside the greenhouse had a lot of humid due to one own modified environment, may be due to feeding, leakages in the greenhouse, it means there a lot of water vapour in the greenhouse. During the night as the temperatures goes down the capability of air to hold certain amount of water goes down releasing the water to the environment, that is on top of the flower leaves and if it persists for about four hours then there is possibility of getting downey mildew attack even during dry periods.

Thus there need to be very right in terms of management of greenhouse activities; one

shouldn't do a lot of feeding towards the evening, beds should be properly managed and when such issues arise, greenhouse should be vent rated in the evenings so that the wind can go in and blow off the air that has a lot of humid. But the problem arise when one want to vent rate the greenhouse but have other issues such as caterpillars or powdery mildew that requires windy condition for spores to spread. Most of people are going for nets whereby they roll over the plastic but the net breaks the spores and caterpillars from spreading.

Basically what is needed is for one to understand the environment that satisfies certain conditions suitable for various attacks depending on the region and managing systems properly. The bottom line is that one need to get it right in the way he vent rate greenhouse, because much of the problems arise from air circulation. The greenhouse needs to be shorter and long. The greenhouses that are too wide have a problem with the efficiency of inside air circulation; meaning that they are most vulnerable to attacks, also the type of greenhouse and the direction



that it is facing in terms of wind direction matters.

The greenhouses need to face away from the wind. Every day it should get good air circulation, meaning the air that was there in the morning need to go out, another one come in, about five times a day. There are times you find that the same air which was in the morning is the same air in the afternoon which means all the diseases spores that are inside the greenhouse are extended up to the evening when the conditions for their germination becomes favorable. This can also be overcome by having fans to speed up air circulation. Fans works well in low altitudes especially when it is raining to make sure there is better air circulation.

For downey mildew to happen, it is a relationship between water and air being thick enough so that the spores which attacks the lower side of the leaves where we have stomata is thick enough to ensure that spores stay there without disturbance. When controlling downey mildew it is important to circulate the air which on the parallel will encourage powdery mildew. A balance should be struck because each of the activity might discourage one issue and encourage the other one. This is what determines good and bad growers; sometimes you have the knowledge but the balancing and what times one is doing it becomes the defining moment.

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