



Whitewashing your greenhouses

Light is an essential factor to grow cyclamen. It is therefore essential to manage it well with different shading methods, particularly during hot periods.

In this fact sheet, we explain the advantages of whitewashing your greenhouses with lime or paint despite the constraints to apply it. Whether your greenhouses are plastic, glass or tunnels, whitewashing is just as important!

Moreover, with global warming and rising temperatures, **in both hot and colder countries** whitewashing is **one of the most effective methods to protect** your crops and guarantee good final quality.



Today, we have a testimonial from a horticulturist who is pleased with this shading method and who has obtained good results since he started using it.

We interviewed **Régis BENOIST**, co-manager of **BENOIST HORTICULTURE** located to the east of Paris in Faremoutiers, France.



When did you start growing cyclamen?

The company was created in 1913 by my great-grandfather and my father started growing cyclamen over 50 years ago. I can almost say that I grew up watching my father grow them!

How did your father shade his greenhouses?

With a mixture of lime and glue to improve adhesion to the greenhouses. Then, we had to climb on top of them and scrub the coating to remove it. We stopped whitewashing as it was a very arduous task.

But today, you use paint again to whitewash your greenhouses?

Yes! I've started whitewashing again. I went a few years without doing it and only used shade screens. But the screens didn't solve the heat problem which caused a decline in quality and crop losses.

Yet your cultivation area is not very hot (oceanic climate). Why is it so important that you whitewash?

Although we are not in a hot area, every year our hot periods are short but intense with maximum temperatures of 35° C to 40° C (95-104°F) between August and September. That is enough to damage our entire crop! It concerns plants at an advanced cultivation stage (well-developed leaf system) that suffer the most from the heat.

Even in a cool climate, short periods of intense heat may occur.

Do you have any criteria to figure out the right percentage of shading necessary for your crops?

In my climatic zone, I try to shade my crops between 50% and 60%, that is between 400 W/m² (35,000 lux ; ~3500 fc) and 500 W/m² (45,000 lux; ~4500 fc) as the minimum temperatures in August can start at 15°C (59°F) with the maximum temperatures exceeding 25°C (77°F). Therefore, in summer the average daily temperatures (ADT*) are between 22°C and 24°C (72-75°F).

*ADT : Average Daily Temperature

The criterion for the percentage of shading to be applied is linked to the ADT*. The hotter it is, the more shading is required and vice versa!

Therefore, when the average temperatures drop in autumn, do you remove the whitewash to retain an adequate amount of light?

Yes, of course! The type of paint that I use is very resistant to precipitation, so I decide when to remove it.

For my standard crops (All Saints Day sales) which are repotted in May- June, I first remove the whitewash from the north-facing side of the greenhouse in mid-September with a special detergent for removing paint. In our climate, I usually remove the rest of the whitewash in mid-October.



As temperatures drop, plan to remove your whitewash preferably in two stages.

For my other cyclamen crops (Christmas sales) which are potted in July - August in another greenhouse, I use less shading: 30% to 40%, otherwise, the plants don't grow enough and end up being too small!



For later potting, plan for a lower percentage of shading so as not to block young plants growth.

How do you usually handle days where there are sudden temperature rises?

I try to keep track of the weather forecast and when this happens, I have no other choice but to use shade screens for a few hours. If the growing medium is wet enough, I skip watering the next day then I reduce the amount of fertiliser.

Otherwise, I water normally and still reduce the amount of fertiliser. This helps to keep the plant compact and prevent it from stretching.



When there are sudden temperature rises:

- Apply shade screens for a few hours
- If possible, skip watering the next day
- Reduce the amount of fertiliser

In any case, in hot countries like in southern Europe climate type, I think they should whitewash a lot more than I do, up to 60% to 70%, given that they have average temperatures above 25°C (77°F).

For more information, read the «**Unexpected heat stress**» Technews edition:
English : <http://cyclamen.com/pdf/technews/201809/unexpected-heat-stress-en.pdf>
USA : <https://www.cyclamen.com/pdf/technews/201809/unexpected-heat-stress-us.pdf>

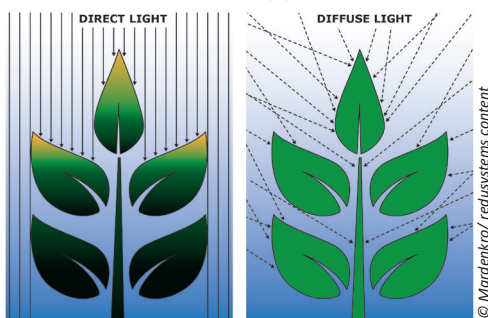


So it's a dilemma of achieving a maximum amount of light without allowing heat to enter the greenhouse?

That's exactly right! Thanks to the paint filters, the «diffuse light» is homogeneous and of maximum quality within the greenhouse. Thus, the temperature of the leaves and the growing medium does not increase allowing better homogeneity in the crop.

You mentioned the concept of «diffuse light»: in your opinion, how important is it in the cultivation of your cyclamen?

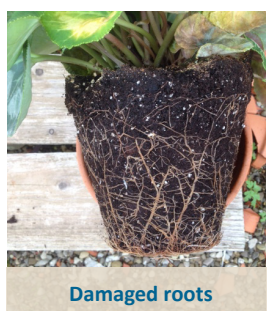
Fundamentally, the light is better distributed throughout the entire crop. Previously, without whitewashing, there was an uneven distribution of light in my greenhouse (tubes, gutters, folding screens, etc.). Today, the light is better distributed and all of my plants react in the same way.



To homogenise the light your crops receive is just as important as to homogenise watering!

How did whitewashing your greenhouses improve your crop specifically?

When I avoid heat stress that overheats the leaves and the growing medium, my crop improves in many aspects, especially in the sanitary aspect. Before, I used to apply the maximum amount of light to make my plants compact. This caused root loss when spacing. So I had a lot of problems with root loss which led to Phytophthora. Thanks to whitewashing, I have managed to control it.



For more information, see the «Phytophthora» Technews : <http://cyclamen.com/pdf/technews/201806/phytophthora-en.pdf>

Have you noticed any other improvements?

Yes, there is another important aspect! When I didn't use paint, I had trouble controlling the growth of the varieties in 14 cm or 17 cm (5.5-6.5") pot because of a constant requirement for water.

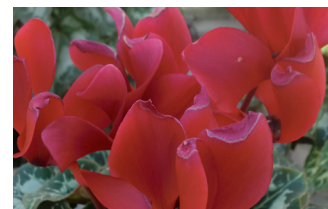
In periods of high temperatures, I didn't know how to use shade screens to correctly manage the light in full sun or in darkness. Once in bloom, my cyclamen had tip burn on their leaves and flowers as though there were a deficiency.

These deficiencies have been associated with root loss. Since I started whitewashing again, I have been able to keep the roots healthy and the problem has disappeared!



Whitewashing helps to avoid the problems linked to heat stress:

- Root loss
- Phytophthora
- Irregular growth
- Tip burn



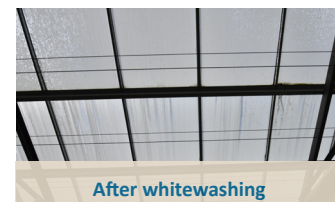
Burns on leaves and flowers

Régis, thank you very much for sharing your experience. Is there anything else you want to say to finish?

Yes. In cultivation, we are always looking for homogeneity: in the batches of plants, and in watering. It is essential to also seek to homogenise the amount of light they receive.

And, as I said to start with: whatever the work constraints that this step imposes, whitewashing your greenhouses is really worth it!

WHITEWASHING the greenhouses:



REMOVING THE WHITEWASH from the greenhouses:

