

# Integrated pest management for cannabis



Thomas Walker discusses the importance of a robust integrated pest management regimen and how to implement it for the prevention and control of cannabis pests and pathogens.

It is of the utmost importance for the commercial cannabis producer to ensure the success of each crop cycle. This is particularly the case when cannabis is being grown for medical uses, as the cost of production is very high, due to factors such as compliance costs, testing and staffing.

The two main diseases encountered by cannabis growers are powdery mildew and botrytis. Both spread rapidly, and botrytis has the added problem that by the time it is detected, little can be done. More often than not the entire crop will need to be destroyed.

## PREVENTION IS BEST

The aim of integrated pest management (IPM) is to prevent damage or loss by insects or pathogens.

The first preventative step is to ensure that the facility is designed optimally. By employing footbaths, air filtration, airlocks and sanitation measures and using positive air pressure inside production facilities, you can make it harder for pests and pathogens to enter the cultivation areas.

The facility should be designed to compartmentalise the different stages of production; this will prevent cross-contamination.

As part of this, sanitary stations should be set up and workers required to don clean overalls before entering any area; this will help prevent pathogens from being introduced.

Here are some more tips:

- **Propagation**

Planting clones from other facilities will readily introduce pests and pathogens into your facility. Use seeds or tissue culture instead; this will go a long way towards preventing infiltration.

- **Irrigation**

Allow the growing medium to dry out between waterings to mitigate root and pest problems. This will also help with oxygen uptake by the plants' roots, which will lead to larger yields and a better end-product. Design the drainage systems to remove run-off rapidly from the growing environment; standing water attracts thrips and other insects and promotes fungal proliferation.

## PLANTING CLONES FROM OTHER FACILITIES MAY INTRODUCE PATHOGENS; USE SEEDS OR TISSUE CULTURE INSTEAD

- **Cleanliness**

After each cycle, clean the entire production environment, including floors, walls, sanitary stations, lighting, tools, containers, filters and equipment, with either bleach or a mixture of hydrogen peroxide and peroxyacetic acid.

- **Climate control**

Precise climate control is one of the best means of mitigating the growth of pathogens. As mentioned earlier, humid environments facilitate disease, so keep the humidity below 60% and minimise temperature swings.

- **Monitoring**

Use sticky fly traps during the production phase to monitor the crop. The traps are used only for monitoring, not for control. Monitor the plants daily, and remove affected plants as soon as they are identified. You may need to harvest earlier than expected to stop serious losses.

- **Records**

Keep thorough records of insect and pathogen infiltration to ascertain levels of infestation. This will help you decide what action to take with regard to previous solutions and when to harvest earlier to prevent further losses.

## ADDITIONAL OPTIONS

Beneficial insects are an excellent form of biological control. Insect suppliers should be able to suggest a particular predator to prevent or control an infestation in your area.

Seek advice on which pesticides to apply (if any) when using predatory insects, as the pesticides may harm them. In any case, use only organic pesticides and fungicides.

Good plant spacing will enable air to circulate correctly and diminish micro-climates within the canopy. Don't allow plants to get too large, as this will interfere with air circulation. Keep in mind, too, that the larger the buds, the higher the chance of their contracting botrytis. Bigger isn't always better!

Before applying pesticide or fungicide, check whether it is permitted by the local licensing authority, the customer, and the country the product will be shipped to. Certain products may be banned.

Employ an atomiser for the best canopy penetration. Carry out follow-up applications with pure water to wash the leaves and ensure that the stomata don't get clogged.

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