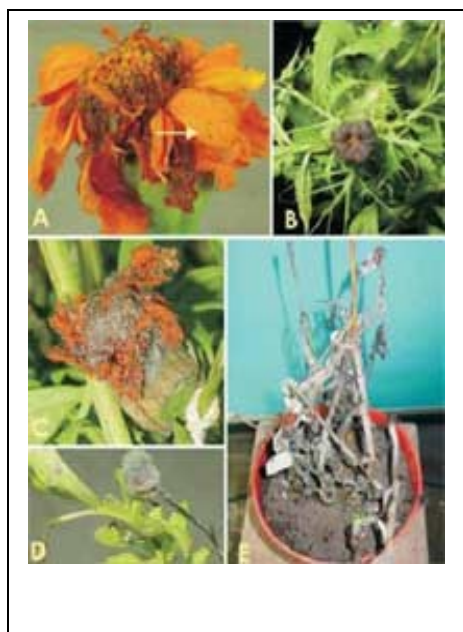


2. Flower power!

You must have heard the term "She's not just a pretty face."? This term can also be applied to the lovely marigold flower, which is not just beautiful to look at, but is also a useful diagnostic tool where *Botrytis* grey mold is concerned.

Botrytis grey mold (BGM) is a disease, caused by the fungus *Botrytis cinerea*, that mainly attacks the reproductive structures of plants, especially the chickpea plant. Flower abortion is a common symptom of the disease. The disease remains undiscovered until the signs of damage become visible on the flower canopy (Fig. A). As a result, fungicides cannot be applied early enough to control the disease. The predictive models (as described by Shtienberg and Elad in 1997), to estimate disease severity and timing are based on complex mathematical calculations, and they do not account for inoculum pressure. To identify an alternative indicator for reliable diagnosis, forecasting, and management of BGM, ornamental plants commonly grown during the chickpea season as a collateral host of *Botrytis cinerea*, were evaluated.



Controlled environment investigations on host pathogen interaction were carried out with marigold (*Tagetes erecta* L.). Flowering plants of marigold when spray-inoculated with *B. cinerea* (3×10^5 conidia mL⁻¹) from chickpea and incubated in an environment (15°C and 100% RH) needed for BGM development, produced symptoms on the leaves, flowers, flower buds and stems. Six days after inoculation (DAI), dark lesions were observed on a fully blooming flower (Fig. B). Concurrently, all the young buds appeared completely rotted, but did not support sporulation. By 12 DAI, masses of wind blown grey sporulation on flowers and flower buds were clearly visible (Fig. C and D). Between 15 and 20 DAI, profuse grey sporulation was observed on all the aerial plant parts (Fig. E).

The early infection of *B. cinerea*, seen as a mold on the marigold, clearly identified its usefulness to farmers as a diagnostic tool to predict BGM epidemics.

This is true especially in the disease management of chickpea. Marigold as an indicator plant to apply prophylactic fungicidal protection to chickpea crops in Nepal has been successfully validated. Infection of *B. cinerea* on the flowers of marigold and Dahlia, grown at Ishurdi and Jessore in Bangladesh, indicates the possible integration of this farmer friendly, low-cost BGM forecasting system.

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