



BAYER BULLETIN

Botrytis in grapes

overview

Botrytis cinerea (“botrytis” from Ancient Greek botrys meaning “bunch of grapes” plus the new Latin suffix “itis” meaning inflammation). This fungus is also commonly referred to as grey mould.

Botrytis is a necrotrophic pathogen that induces cell death of its host and lives on dead plant material.

Infection occurs in one of two ways:

- // The pathogen enters the plant tissue through wounds e.g. hail, bird or insect damage, or
- // the pathogen can be latent in the grape and will develop once conditions are favourable.

The disease can cause bunch rot close to harvest resulting in production losses pre and post-harvest. In wine grapes *Botrytis* produce enzymes that reduce flavour, colour and storage quality of wine.

In table grapes shelf life is reduced and sorting and packaging costs are increased.



about the problem

Strands of the fungus (mycelium) produce hard structures called sclerotia which will survive on the vine and on decaying matter in the soil. The mycelium and sclerotia can survive for up to 20 months under favourable conditions and can also survive on various other vegetative growth in or near the vineyard. Therefore weed control for example, can also form part of disease control. Both these structures can produce spores for new infections. Spores can be transported by wind or water to infect vines and the pathogen can germinate in as little as 1 hour. Prolonged wet periods combined with cooler weather in spring give cause to development of *Botrytis*. Although temperatures around 20 °C favour development, the pathogen can survive in a temperature range as wide as 1 - 30 °C.

Dense canopies aggravate disease development. Some varieties are also more susceptible due to thinner skin and dense bunch formation which will retain moisture.

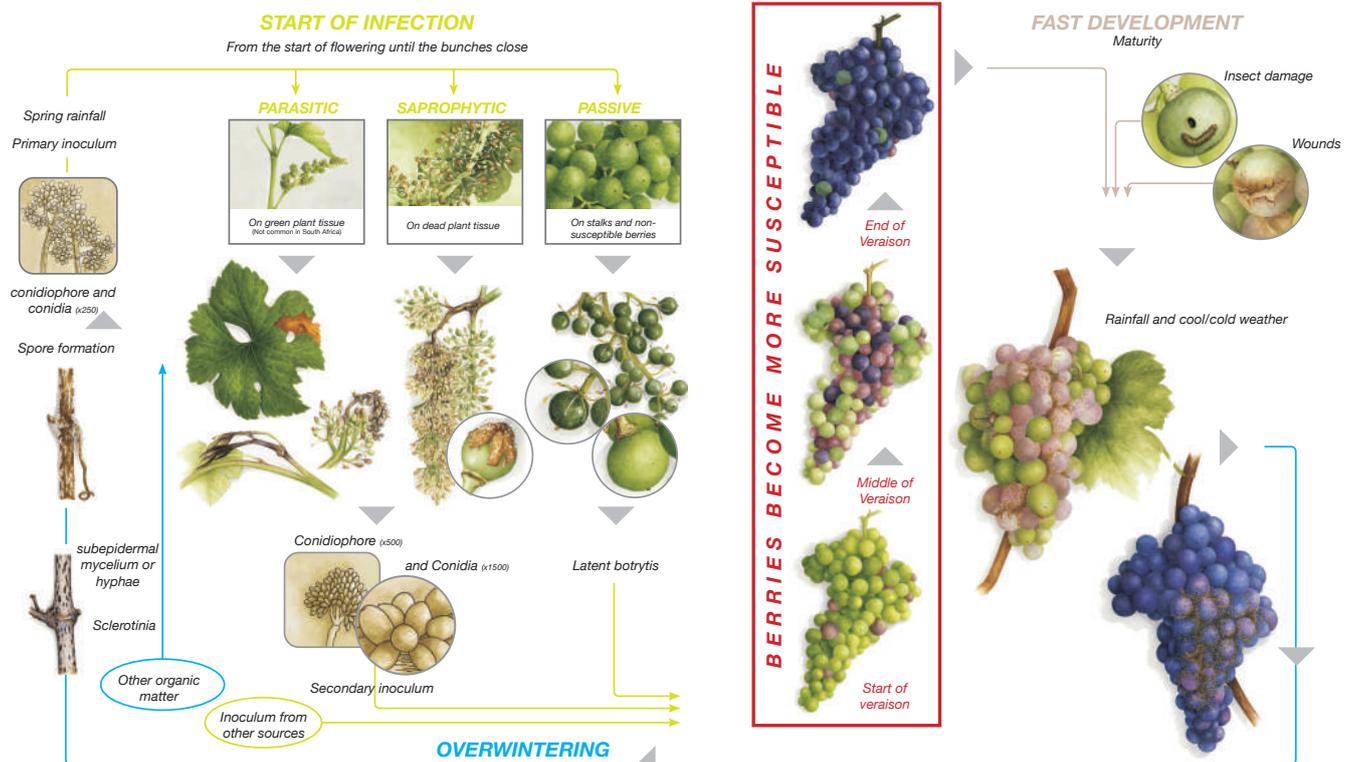
The most susceptible stage is the flowering period. Control during flowering is critical and once the pathogen penetrates the berry, control becomes difficult. **Luna® Privilege** offers ideal control during the flowering stage.

HANDY TIP:

Apply **Luna® Privilege** during flowering period.

Post veraison, also an infection prone stage, with increasing sugar production and sugar leakage from berries, can assist growth of *Botrytis* on the surface as well as latent infections inside the berry. All stages can however be infected.

Botrytis LIFE CYCLE



Best time to apply **Luna® Privilege**

symptoms

Typical symptoms include a grayish mould on the grapes, hence the common name grey/ gray mould (Picture 1 & 2). Leaf symptoms start as dull green spots turning necrotic (Picture 3).

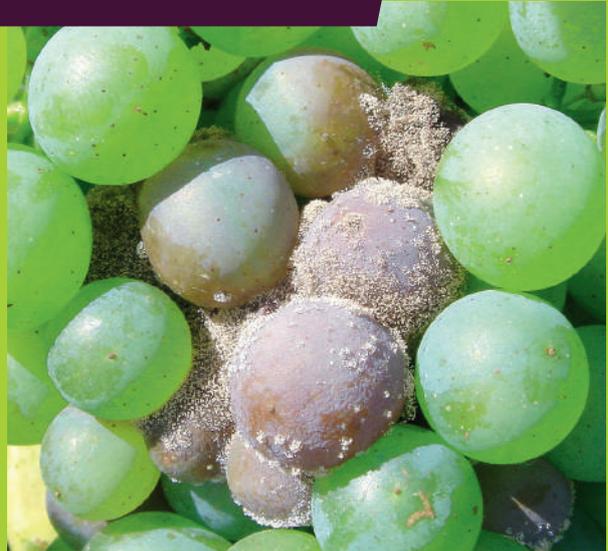
HANDY TIP:

To detect early symptoms on darker coloured grapes lightly press on the light brown discolouration of skin. When *Botrytis* is present the skin will simply “slip off”. Later symptoms of course are the visible conidiospores visible on the grapes (picture 1). As the disease spread it can form a “nest” within the bunches.

Picture 1 GRAY MOULD



Picture 2 GRAY MOULD



Source: Pictures 1 & 2, Bayer.com

Picture 3 LEAF SYMPTOMS



Source: <https://www.lodigrowers.com/botrytis-cinerea/> L. J. Bettiga

control



Certain preventative actions can minimise the *Botrytis* risk.

These include:

- // Plant establishment;
- // Position row direction to optimise airflow through the vineyard;
- // Space plants to improve airflow;
- // Use trellising to improve airflow;
- // Irrigation selection;
- // As *Botrytis* is a weak pathogen, a vigorous plant is more tolerant to infection.

Sanitation

- // Weed control
- // Removal of old plant debris.

Crop protection

- // When applied during flowering, **Luna®Privilege** controls *Botrytis* at several stages of the life cycle including:
 - spore germination
 - germ tube elongation
 - mycelial growth
 - sporulation
- // **Teldor®** inhibits germ tube elongation and has a short withholding period.

Botrytis is genetically highly adaptive and is known to develop resistance by means of its genetic mutations and various modes of action is needed to effectively control the pathogen.

Optimal timing for application and the correct product for that growth stage is critical to obtain the most benefit from your chemicals. Always follow guidelines on labels.

Bud break	2 - 5 cm Shoot length	10 - 15 cm Shoot length	25 - 30 cm Shoot length	Pre-flower	Full flower	Pea berry stage	14 days post pea berry	Veraison	14 days post (veraison)	Pre-harvest



Bayer (Pty) Ltd. Reg. No. 1968/011192/07
 27 Wrench Road, Isando, 1601
 PO Box 143, Isando, 1600,
 Tel: +27 11 921 5002

www.cropscience.bayer.co.za
www.bayer.co.za

Luna® Privilege Reg. No. L8997 (Act No. 36 of 1947). *Luna® Privilege* contains Flupyrrom (Caution). *Serenade®* Reg. No. LL 8544 (Act No. 36 of 1947). *Serenade®* contains *Bacillus amyloliquefaciens* (Caution). *Teldor®* Reg. No. L6250 (Act No. 36 of 1947). *Teldor®* contains Fenhexamid. *Scala®* Reg. No. L4972 (Act No. 36 of 1947). *Scala®* contains Pyrimethanil (Caution). *Luna® Privilege*, *Serenade®*, *Teldor®* and *Scala®* are registered trademarks of Bayer AG, Germany.

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