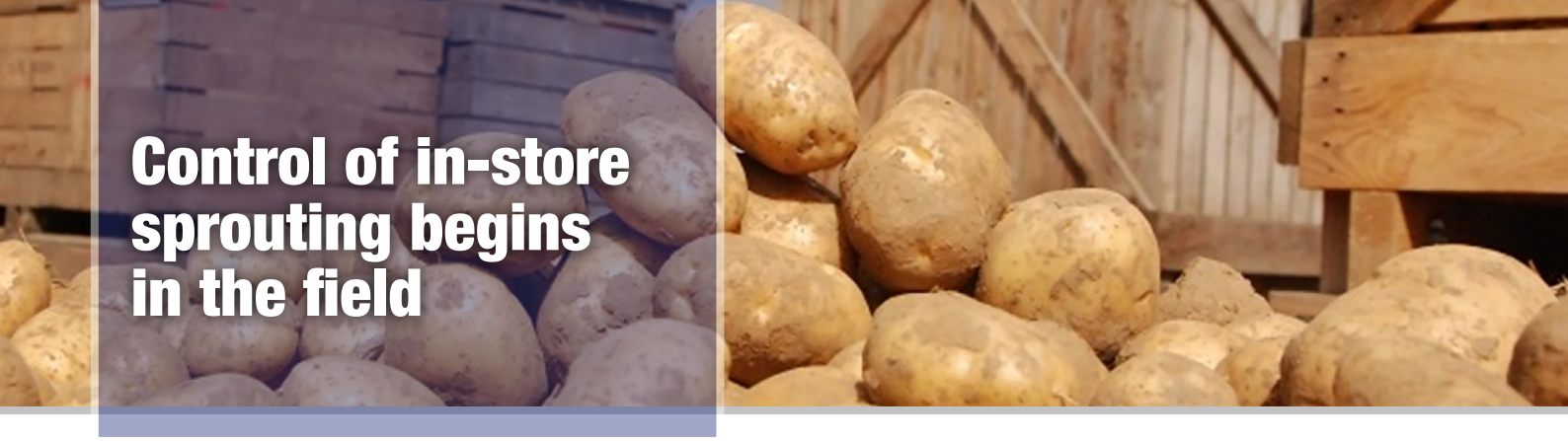


Control of in-store sprouting begins in the field

The popular plant growth regulator Maleic Hydrazide (MH) is permitted for application in the field as a means of controlling potato growth post-harvest in stores and in tubers left behind which would become bothersome volunteers in following crops.

MH is marketed for use on potatoes via several product names, which include Fazor and ITCAN to name a few. The active substance is a systemic molecule that can work as an effective sprout suppressant. It has a distinct difference from other chemicals, and alternative products for sprout suppression, which are applied in storage because MH is delivered as an in-crop foliar treatment; usually around a month before forced haulm removal or natural plant dieback. To take the required action it must be absorbed by the foliage of the potatoes before being translocated to the filling tubers via the flow of sap within the plant. After migration it accumulates in the tubers and regulates the growth of meristems (sprouts) by inhibiting cell division.

"Necessity for undisrupted and optimal sap flow"

With its usage being as a foliar spray the effectiveness, primarily as a sprout suppressant and secondarily as a volunteer control method, is determined by its level of uptake. This factor is crucially affected by the health of the crop canopy and environmental conditions at application time. To effectively treat a crop the plants should still be actively growing and healthy as it is their internal mechanisms that will be relied on for sufficient uptake and movement of the MH. Additional to the strategy of avoiding known non-ideal conditions for application (going too early which can threaten yield, calibre size and internal quality; going too late which threatens lack of effect; soil conditions being too dry; temperatures being too high; vegetation volumes being insufficient; spray mixture volumes being below 200 L/ha) there are certain other solutions that can assist the systematic uptake and movement of MH increasing the concentration of this molecule in the tubers.

"Limiting the impact of environmental stresses"

An experimental program to deliver results

In order to improve tuber storage and reduce losses, Lallemand Plant Care, in conjunction with our partners, have been investigating means of improving MH uptake and movement to treated tubers using the very powerful osmoprotectant (sap flow enhancer) IntraCell® in combination with MH applications. Rich in natural Glycine Betaine (from plant origin) IntraCell® reduces negative osmotic influences (stresses) on plant cells - increasing the systemic effectiveness of foliar applications - and consequently is able to increase the uptake and/or movement efficiency of plant growth regulators and other products that are dependent on systemic activity. As a result, the quality of tubers coming out of storage is improved and losses minimised.

Barworth

Barworth Research Ltd
Lincolnshire, England, 2020

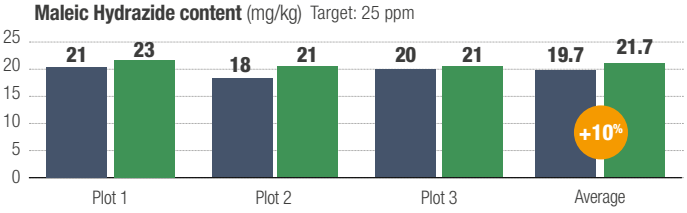
Variety	Maris Piper
Type of soil	Sandy silt
Trial layout	6 plots of 2 rows x 5 metres

Applications

- Standard practice: Fazor (Maleic Hydrazide 60% w/w) at 5 kg/ha on 13/07.
- IntraCell® practice: 1 kg/ha 10 days before application of MH (02/07) followed by 1 kg/ha 48 hours prior to MH (11/07).

Approximate growth stage: 80-89

Maleic Hydrazide content (mg/kg) Target: 25 ppm



La Ferme Pilote

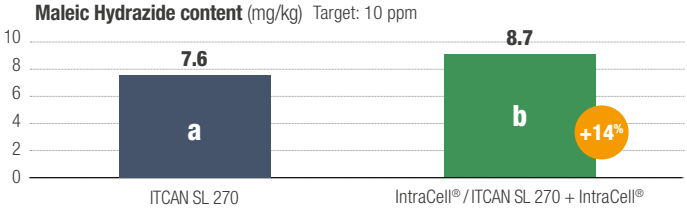
La ferme Pilote Carré
France, 2020

Variety	Daisy
Type of soil	Deep silt
Trial layout	Microplots

Applications

- Standard practice: ITCAN SL 270 (Maleic Hydrazide 270 g/L) at 11 L/ha alone on 13/07.
- IntraCell® practice: 1 kg/ha on 13/07 followed by IntraCell® at 1 kg/ha + ITCAN 11 L/ha on 20/07.

Maleic Hydrazide content (mg/kg) Target: 10 ppm



A better content of Maleic Hydrazide is found inside the tubers when applied in a program that associates its application with IntraCell® applications. The level achieved was an average of +10% in the UK trial and +14% in the French trial.

There is clearly an improvement in the uptake of this systemic active substance when IntraCell® is used in a combination program with it.

For more details please contact our UK Agent, Bill Fone
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ALWAYS CONSIDER YOUR VARIETY AND CHECK WITH YOUR CUSTOMER BEFORE MAKING CHANGES TO YOUR SPROUT SUPPRESSION STRATEGY. FOLLOW PRODUCT LABELS AND PROFESSIONAL ADVICE CAREFULLY.

LALLEMAND