agrotechnology

Agro 100 | Neighbours since 1990.

calcium agrofoliar

// apples + Póma, a synergy for growth

developed by **Agro-100**
patent-pending formulation

On the back, you can consult the data collected from our three-year study with Póma, an interesting economic option that helps you harvest and store firmer fruits of great, mouth-watering colouration.

Using an enrichment product is justified by both its agronomic and economic benefits. That is why Póma represents an excellent investment for the growth of your business.

Growing apples demands soil that is in good condition, an apple growing expertise of pruning, and continuous care for the growing fruit because it is the apple—a firm, fresh and healthy looking apple—that determines the business success of your orchard.

At the heart of bitter pit

Firmness and fruit appearance are the top selection criteria of apple consumers. Any apple grower knows that bitter pit is synonymous with revenue loss. Bitter pit is a physiological disorder that shows up on apples as small dark lesions that bruise the skin while the tissue beneath the skin becomes brown, corky, and bitter. This disorder rarely manifests itself in the orchard but generally shows up during storage. Damages vary depending on the susceptibility of the cultivar. Inadequate calcium concentration in the apple may explain post-harvest damages that lead to an important loss of profits.

The importance of calcium in a healthy apple

Calcium is an important element for maintaining cell wall integrity. Thus, it is **indispensable to the apple tree as well as to the quality of the apple**. Bitter pit is associated with low levels of calcium in the fruit. Many factors such as excessive tree and fruit growth, soil with a low pH-level, boron deficiency, and drought can worsen the occurence of bitter pit.

Calcium is usually sprayed as either a calcium chloride or calcium nitrate formulation. Calcium chloride ($CaCl_2$) is a highly abrasive salt that may cause leaf burn while calcium nitrate ($Ca[NO_3]_2$) contains nitrogen, which limits its use because it could interfere with the lignification of the apple tree. So, what is to be done? Especially since we should keep in mind that some cultivars are highly sensitive to chlorine and that leaf burn accelerates fruit maturation which, in turn, may lead to the premature fall of smaller calibre apples.

Póma: a tactical ally to your fertilization strategy

Póma, developed by Agro-100, is a liquid nutritional foliar supplement designed to complement calcium fertilization and prevent physiological disorders caused by an inadequate supply of calcium. By providing the calcium needed for the physiological development of the apple, Póma helps reduce the occurence of bitter pit.

Póma contains calcium complexed with organic acids and its formulation is **chlorine- and nitrate-free**. It also contains bioactive compounds such as: a ***tensioactive*** agent (droplet distribution), a ***damping*** agent (evaporation restriction), an ***adhesive*** agent (anti-washout) and a ***penetrating*** agent (passage of mineral elements through the leaf wall). Calcium assimilation is improved and washout is reduced. Póma is compatible with most agrochemical products and it can be applied by crop duster. **The new technological formulation of Póma is patent-pending**.

Póma

For more information or to place an order, please contact your Agro-100 representative.

Complete data available from Agro-100 Ltd.

www.agro-100.com

agrotechnology

Agro 100 | Neighbours since 1990.

calcium agrofoliar

// **Póma** protects your investment by favouring the development of firm apples and reducing the occurence of bitter pit

developed by **Agro-100**
patent-pending formulation

Póma *offers you:*

- **good crop tolerance;**
- **high penetration rate of calcium;**
- **cell wall reinforcement;**
- **great fruit quality;**
- **compatibility with agrochemicals.**

Here are the results of our three-year study (2011–2012–2013) that show a significant increase in apple firmness and a reduction in the occurence of bitter pit disorder by using Póma compared with control programs using calcium chloride- or calcium nitrate-based products.

three-year results_**firmness** criterion

	2011 **Firmness** (pound force)		2012 **Firmness** (pound force)		2013 **Firmness** (pound force)	
	Control	Póma	Control	Póma	Control	Póma
Gala	15.10	**16.10**	13.15	**12.28**	13.69	**14.94**
Honeycrisp	13.00	**18.30**	10.75	**12.54**	14.95	**16.31**

three-year results_**bitter pit** criterion

	2011 Bitter pit (%)		2012 Bitter pit (%)		2013 Bitter pit (%)	
	Control	Póma	Control	Póma	Control	Póma
Gala	36.00	**25.20**	7.78	**7.19**	41.43	**31.76**
Honeycrisp	34.80	**25.70**	11.17	**9.13**	0.56	**0**

Trials conducted under the supervision of Dr Régis Baziramakenga

Póma chlorine- and nitrate-free calcium

	Presence of		
	Chlorine (Cl)	Nitrates (N)	Calcium (Ca)
Póma			●
AgroCa	●		●
OligoCa	●		●
Calstix®	●		●
NutriAg Calcimax	●		●
Engage Agro INCA		●	●
ÉcoCal		●	●
ÉcoCalMag		●	●
Calcium+	●		●
Wuxal®		●	●

Complete data available from Agro-100 Ltd.

www.agro-100.com