

Don't let the **pests** bug you

... says Eric van der Zwet, sales manager at Dutch company **Besseling Group** which specialises in controlled atmosphere (CA) solutions that disinfest tobacco and other commodities. Van der Zwet says the company's solution is simple – low oxygen kills pests.

Controlled Atmosphere (CA) solutions for the disinfestation of commodities is based upon low oxygen in combination with increased temperatures. The treatment is done in a gastight store over a certain period of time and CA treatments offer many advantages over traditional fumigants, including no pest resistance, residue-free and safe, says van der Zwet of Dutch CA specialist, Besseling Group.

A BRIEF HISTORY OF CA

CA is commonly used in the fruit and vegetables industry. The concept has a long history, with the first experiments having been carried out by Frenchman, Jacquet Beard, in 1821. The results of the experiments won him the Grand Prix de Physique from the French Academy of Sciences but failed to inspire any commercial application. In 1920, the partnership of Franklin Kidd and Cyril West at the University of Cambridge produced the first systematic studies of "gas storage" of fruit in the world, and launched the science of postharvest physiology. In 1925, the first of a series of now classic articles (1925 – 1949) was published by Kidd and West on the gas storage of fruit using a mixture of CO₂, O₂ and N₂. During the 1940s, a group of postharvest scientists, assembled in New York, decided to rename Franklin and Kidd's "gas storage" Controlled Atmosphere, the name by which we know it today.



Besseling's PSA nitrogen generator keeps oxygen at any desired level

CA SPECIALIST

For many years, Besseling has been regarded as a leading expert in the development, production and installation of equipment for optimising storage under CA conditions. The company offers solutions for preservation and disinfestation requirements and provides advice within the areas of atmosphere cooling and heating, humidity control and gas tightness of stores. "During the last 30 years, our products have been installed in more than 40 countries," comments van der Zwet, "either by ourselves or via our network of distributors." Besseling undertakes more than 100 projects with their CA equipment annually. The majority of these are related to the fruit and vegetable industry but, over the last few years, Besseling has been installing its control system and PSA nitrogen generators for

BESSELING GROUP

Originating from a municipality of the Netherlands with a long history of fruit-growing, the Besseling family has been involved in the storage of consumable goods for over 70 years.

The company built its first cold stores in the 1950s and constructed the first CO₂ absorber in 1965. In the decades that have followed, Besseling Group has become a specialist in climate control and provides a broad range of controlled atmosphere solutions to customers around the world. For more information about the company, visit: besseling-group.com

use in oxygen reduction applications such as high bay warehouses (fire prevention) and disinfestation. "We started with disinfestation of cultural heritage followed by cacao," says Van der Zwet, "and now we also have a large disinfestation project in the harbour of Antwerp. For this project, we also supplied the measurement and control system as well as machinery room control."

THE RIGHT EQUIPMENT

The PSA nitrogen generators built by Besseling are used for many industrial applications. The PSA produces an ideal production ratio of compressed air / nitrogen and van der Zwet says increasing market demand is evidence of this. "In 2016, we manufactured PSAs producing a total of 2,100 nm³ nitrogen per hour," says André van Dienst, sales director at Besseling. ▶

Don't let them bug you anymore!

Besseling Group provides turnkey solutions for CA treatment of tobacco

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THE ART OF STORAGE



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"At this moment, we are at a total of 2,450 nm³ nitrogen per hour and we still have 3 more months to go."

Besselings' measurement and control system is based upon expandable modules which can handle all possible input and output signals. It controls the heating system and oxygen levels in individual stores, as well as locking and releasing the gastight doors at times when certain levels of oxygen are registered. Within the system, treatment recipes can be configured consisting of temperature settings, oxygen levels and timers. The recipes are based upon the parameters for use in controlling cigarette beetle and tobacco moth infestations set by Coresta in May 2013. The recipe includes a safe release after CA treatment has been completed. Safety is important, as low oxygen not only kills pests ...

PROVIDING CONSULTANCY

Thanks to more than 30 years' experience, Besseling says it has the knowledge to store and treat virtually any product under optimum conditions. "Over the last couple of years we have helped several companies to professionalise their installation," says Van der Zwet. "We understand the challenges of CA treatment and provide solutions where needed." Besselings tells TJI that its experienced specialists can guide customers' construction or rebuilding projects from start to finish. The entire planning, organisation and management of projects will be in the hands of one fixed contact. The company says it can provide the expected results and quality within the agreed time frame thanks to short communication lines and transparent planning. The majority of turnkey projects are implemented in partnership with local Besseling distributors so that future service and maintenance can also be provided at local prices. **TJI**