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Greater Energy efficiency and reduced carbon footprint for SmartFreshSM fruits from South Africa – Quality remains consistent

Berlin, February 2011. Switching from the conventionally required negative temperatures to positive temperatures in apple storage and transport from South Africa is now possible if SmartFreshSM Quality System is used. This was announced today by Wehan Groenewald, Commercial Manager of AgroFresh South Africa, and Giovanni Regiroli, Project Consultant for AgroFresh. For the first time, South African results prove that quality remains as high as ever despite a storage temperature increase of up to 1,5 °C.

While AgroFresh can already look back on a series of results in Europe showing measurable energy savings with SmartFresh fruit stored at higher temperatures, the trials in South Africa included a specific energy and quality assessment of not only SmartFresh fruit and control fruit, but comparisons of SmartFresh fruit at standard storage temperature with SmartFresh fruit at higher temperature, to make sure that quality parameters were not affected by the temperature increase.

The findings at the various packhouses turned out to be excellent with an average of 16% kWh saving for each degree Celsius of temperature increase. **During the 6 months of CA storage at higher temperature, an average reduction of 24 kg of CO₂ emissions per ton of fruit was calculated, due to the fact that less energy production was required from the power plant. The saved energy represents cost savings of an average of 43,80 ZAR (4.90 Euros, as for today's ROE) per ton of fruit per 6 months storage.**

The trials were organized in cooperation with selected packhouses and researchers from ARC Infruitec-Nietvoorbij and ExperiCo in Stellenbosch. Mr. Koos Bouwer, an engineering consultant specialized in the cooling industry, measured and calculated the energy savings. Golden Delicious, Granny Smith and Pink Lady were tested in commercial rooms at

Packhouses, while all major apple varieties (Golden Delicious, Granny Smith, Gala, Red Delicious and Pink Lady) were also tested in the laboratories at ARC Infratec-Nietvoorbij, including simulated transport time for export, to provide quality comparative data.

“All our results confirm that an increase in storage temperature does not affect or diminish the fruit quality firmness and texture,” said Wehan Groenewald. “While our technology has been recognized for many years as a powerful quality management tool complementing successfully CA and RA storage and transport conditions, these energy trials offer our customers the completely new potential for cost savings due to higher energy efficiency. The combination of SmartFresh and positive storage temperatures can also contribute to the reduced risk of chilling injuries which can appear during storage below 0°C on sensitive apple varieties like Granny Smith or Pink Lady. A further additional benefit of storage at higher temperature is the reduction of fruit weight loss during storage.”

AgroFresh has already made plans for further studies in 2011, expanding the number of commercial applications.