



Economic Commission for Europe**Steering Committee on Trade Capacity and Standards****Working Party on Agricultural Quality Standards****Specialized Section on Standardization of Fresh Fruit and Vegetables****Sixty-seventh session**

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Item 3 (e) of the provisional agenda

Revision of Standards**Proposals by the delegation of South Africa - Standard for Table Grapes****Submitted by the secretariat**

The following document prepared by the delegation from South Africa provides an overview on the effects on climate change and its effects on agricultural food production with possible consequences for certain provisions in standards including in the standard for table grapes.

It is prepared according to ECE/CTCS/2017/10 section II c and ECE/CTCS/2018/2 section VII a.

The Effects of Global Warming on Food Production

This document prepared by the delegation from South Africa is intended to create awareness around the effects of global warming on agriculture food production and specifically fruit colour.

Global warming is described as a long-term rise in the average temperatures of the Earth's climate system, an aspect of climate change shown by temperature measurements and by multiple effects of the warming. In the modern context the terms global warming and climate change are commonly used interchangeably but climate change includes both global warming and its effects, such as changes in rainfall patterns and other effects. These differ from region to region. The term global warming also refers to the observed and continuing increase in average air and ocean temperatures since 1900 caused mainly by emissions of greenhouse gasses in the modern industrial economy.

“Global warming is real and its effects is a global challenge. This can no longer be denied or ignored as its impact is now visible in many parts of the world and agriculture will probably be one of the biggest casualties.”¹

Projections showed that by the end of this century global temperatures will increase by 1.8 to 4.0 °C with an overall average increase of 2.8 °C 1. This will affect plant vigour and fruit bearing ability leading to smaller fruit sizes, poor colour development, poor internal quality e.g. juice content and shorter shelf-life spans. Pest pressures will

also increase as temperatures increase. The extend of the impact will differ from region to region.

Sufficient colour development is fast becoming one the major obstacles that farmers are facing today. In general, rind or peel colour is enhanced by low temperatures and inhibited by high temperatures. In regions where day and night temperatures are escalating farmers have to resort to artificial means to achieve the desired colour specified by standards. This is not ideal as it not only adds cost to the value chain but also perpetuate the unnecessary use of chemicals that are problematic and unwanted in the international markets. Going forward it will thus be increasingly difficult to justify the use of sufficient colour development as an indicator of product maturity. Fruit for example can be sufficiently developed internally with good eating quality but with poor external colour.

Standards should not be seen as trade inhibitors by importers, exporters and farmers worldwide but rather as facilitators reflecting the current realities and practices of trade, within reason. It is hoped that the debate will continue at GE 1 level to ensure that UNECE standards remain hands-on and relevant.

Note

¹ “IPCC. Climate change, the physical science basis”. In: Solomon S, editor. *Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*. USA: Cambridge University Press; 2007.

