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ECONOMIC COMMISSION FOR EUROPE

COMMITTEE FOR TRADE, INDUSTRY AND  
ENTERPRISE DEVELOPMENT

Working Party on Agricultural Quality Standards

Specialized Section on Standardization of  
Fresh Fruit and Vegetables

Forty-ninth session, 17-20 June 2003, Geneva

Item 3(a) of the Provisional Agenda

PROPOSALS TO REVISE UNECE STANDARDS  
APPLES

Transmitted by New Zealand

**Note by the secretariat :** The following document contains comments from New Zealand concerning the inclusion of weight as a primary criteria of size for the Standard for Apples.

GE.03-31059

## **UN/ECE APPLE STANDARD FFV-50**

### **New Zealand Paper on Size Criteria Inclusion of Weight as a Primary Criteria of Size**

As put to this committee in April 2002, New Zealand considers it timely to recognise both retailers' expectations regarding the importance of fruit weight, and advances in technology made since the initial development of the UN/ECE Pipfruit Standard, which incorporated apple sizing criteria based on diameter measurement.

Apple fruit surveys in New Zealand have demonstrated that there is not a robust predictive relationship between fruit diameter and fruit weight. Relying on fruit diameter to achieve all sizing objectives is therefore extremely difficult in the current commercial environment. Applying fruit diameter using a fruit weight packing process also introduces a range of practical limitations in packing a consistently sized fruit. Our concerns in this respect were recognised through the inclusion of a special footnote in the new UNECE Standard for apples adopted by the Working Party in 2002.

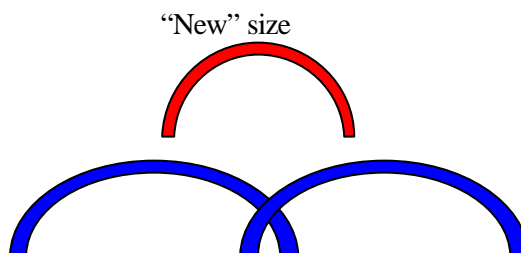
*In 2002 member countries were requested to consider undertaking further fruit surveys to verify the validity of the suggested weights, as tabled at the 2002 meeting (see table 1 below). New Zealand has such a study underway but the lateness of the season has prevented us from presenting results at this time. The survey will be completed before the end of May and results will be forwarded at that time.*

#### **Impact of diameter sizing for weight based systems**

As presented to the Committee in 2002, addressing either fruit diameter or fruit weight individually has a similar outcome in achieving a consistent fruit size in any package. The limitations in fruit sizing become apparent when an attempt is made at trying to achieve both weights and diameter sizing at the same time.

The following are comments on the practical impacts of using minimum diameters when the commercial focus is on individual fruit weight:

- Current package types and configurations have been designed on the basis of package weight and fruit fit. A specific fruit diameter requirement can consequently impact on individual fruit fit in the pack and consequently fruit quality.
- To accurately meet a minimum fruit diameter, using weight sizing equipment, each grower line of fruit needs to be corrected for fruit density and shape changes prior to packing.
- Practical implications of meeting a minimum pack weight but also a minimum diameter has resulted in up to 50% of fruit suitable for weight being rejected for diameter.
- Packing to a specified diameter requirement has produced the example depicted below where it has effectively created an in between size. Often the minimum sizes defined don't align to commercial size definition. The added influence of fruit density changes between grower lines makes this a complex equation.



Typical size profile:                      Size 100      Size 90

### **Conclusions**

*New Zealand believes that;*

- Accurately predicting fruit weight based on a fruit diameter has significant commercial limitations for a number of countries.
  - It is extremely hard to guarantee the minimum pack weight required by customers if fruit is sized by diameter because the fruit geometry and fruit density are too variable.
  - The use of more than one sizing parameter in the UN/ECE standard is appropriate in order to meet the changing needs of the apple industry.

New Zealand again submits that weight is an accurate and easily auditable method of determining size, and is commercially effective and relevant. It is the sizing standard in common commercial use by consumers, retailer, and by a significant proportion of the apple producing countries.

### **Proposed Weights**

New Zealand proposes that the weights shown in table 1 (as submitted in 2002) are the most appropriate weights and seeks their inclusion within the apple standard as an independent, commercially relevant, basis for determining size.

We believe that at this time the option of measurement of fruit size by diameter should remain in the standard as an appropriate option for those suppliers who wish to continue to size fruit using this methodology.

Tolerances, as set in the current standard, are appropriate for both diameter and weight sizing.

**Table 1**

	<i>Extra</i>	<i>I</i>	<i>II</i>
<i>Large fruit varieties</i>	<i>110g</i>	<i>90g</i>	<i>90g</i>
<i>Other varieties</i>	<i>90g</i>	<i>80g</i>	<i>70g</i>