WAGENINGEN UR
For quality of life

Quality requirements for vegetables and fruit products in the European Union

Training Manual: Product Quality Standards including UN-ECE Quality standards for onions

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EU Access report 06
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Applied Plant Research
Research Unit Arable Farming and Vegetable Production
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1. Introduction

1.1 Background

In the European Union, vegetable and fruit growers have to deal with increasing demands made on their product and their production system. The market demands tailor-made, traceable products and reliable suppliers. The need for food safety and product quality is widely acknowledged by the European Union, the food industry, and consumers. These are basic conditions for international trade. This means that the capacity to translate these needs into practical and controllable measures is a critical factor for a successful position in a competitive agricultural sector.

Product safety (prevention of food borne pathogens) and product quality (increased shelf-life and improved texture, flavour, and colour) in the vegetable supply chain can be controlled by developing and implementing food safety and quality programmes. These programmes may focus on the product, the production process or on the whole supply chain. Improvement of quality assurance and food safety is not only a matter of programmes and systems. Preconditions are awareness, attitude, knowledge, (chain) organization and institutional embedding.

1.2 Training manual

This training manual is part of the Qualiman project within the EU Access programme (a programme on "sustainable and competitive agricultural supply chains in pre- and post-European Union accession countries", shortly called "EU-access"). The project is funded by the Dutch Ministry of Agriculture, Nature and Food Quality. The Qualiman project aims to contribute to safe food production and uniform quality management in vegetable and fruit production chains in the new European Union Member States.

This training manual is part of the pilot on agricultural quality standards. The objective of this pilot is the development and testing of a training course on quality requirements. The training manual informs growers and trainers on the basic quality requirements and the relationship of these requirements with international standards and EU Marketing Standards. The training materials were tested with a group of growers to guarantee applicability in practice. The training material is intended to be used by trainers of pre- and post-accession countries.

1.3 Bookmark

This training manual is designed around two presentations (training courses) on quality standards. The presentation slides are given in this training manual and explained below. Because of this, the training manual can be used in two ways, by trainers as input for their own presentation/training course and by farmers to learn about the background of quality standards.

The training manual presents the slides, followed by an explanation of each slide. Trainers can take over our slides and use them in their own training course(s) and use the explanation as background information.

The training manual consists of a warming-up for a training course, the presentation Introduction on Quality Standards, two evaluation forms and the UN-ECE quality standard on onions. The warming-up is a starter for a training course on quality standards. The training is an introduction to quality standards and gives Inspection Services more in-depth insight per product. The presentation contains two exercises that are designed to give farmers a better understanding of 'quality' and 'quality standards'. The training course information is followed by two evaluation forms. The first form serves to evaluate the training course with the participating farmer. The second form is to evaluate the course with co-presenters, if any. Finally, a copy of the UN-ECE quality standard of onions is presented. The UN-ECE quality standards normally include pictures of the product and possible defects. In this case the pictures have been taken from a Polish explanatory brochure of the UN-ECE quality standards on onions.

This training manual has been drawn up with utmost care and attention. This does not guarantee that the given information is flawless. Change and improvement are continuing processes; this subjects standards and legislation to constant change. Users of this manual are advised to retrieve the latest version of the standard or legislation to ensure an up-to-date view of their current status.

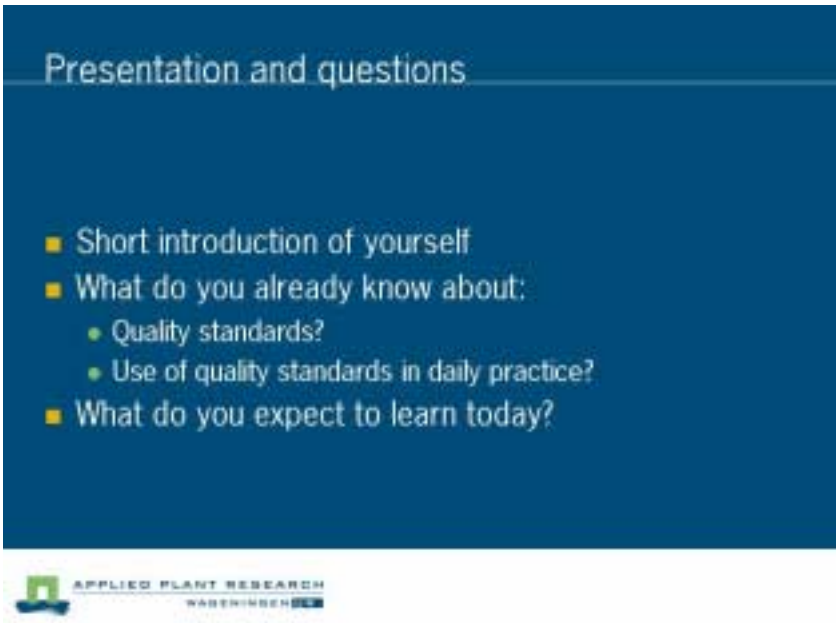
Comments and/or remarks for improvement of this training manual are welcomed.

2. Workshop quality standards

This chapter on quality standards and the presentation are intended to inform farmers on the background of quality standards. The presentation tries to answer basic question like: Where do quality standards come from?, and Why should I comply with these standards?

Each slide is followed by additional information.

2.1 Warming up / introduction



This training is designed to train the trainer. This first slide serves to let the participants get to known each other. For the trainer it is a good opportunity to learn what growers already know of quality standards and whether they come across the quality standards in daily practice. The third point is meant to find out more on what the growers expect to learn. Beforehand there may still be some room for changing the presentations or workshop. Knowledge of growers' expectations will make it possible to live up to these expectations.

2.2 Introduction on quality standards

This presentation has been structured with the following questions in mind:

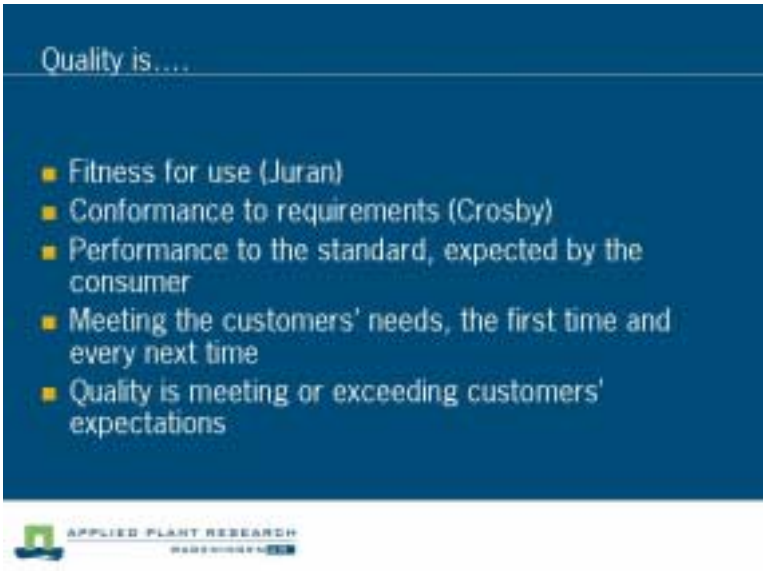
1. What is quality? (definitions)
2. How does quality relate to product quality?
3. Why work on quality assurance?
4. Why quality standards?
5. Where do quality standards come from?
6. Why EU marketing standards?
7. Why comply with quality standards?

Answering these questions should provide more insight, knowledge and understanding of quality standards. The presentation starts with an exercise.

(Schoorlemmer, 2003)

Approach:
Split up into groups of three persons. One person per group takes an object (for example a piece of clothing, a watch or a briefcase) and explains why this product is such a good product.
The group as a whole will give a description of the quality of the object.
After the groups have finished, feedback will take place by using e.g. a flip-over sheet. The explanations of the different groups will be written down on the flip-overs for discussion.
The trainer can let every group present their product and its quality characteristics.

This exercise serves to think about and discuss the concept of quality and the many different definitions of quality. A watch, for example, is not just to learn the time. It can also be important that the watch looks nice or that is made of a material that does not irritate the skin. Many more requirements can be defined for a watch.

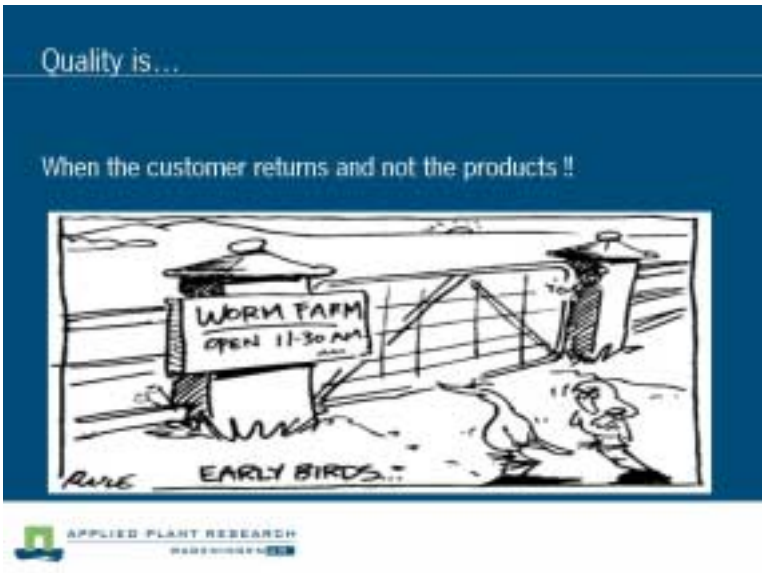


(Schoorlemmer, 2003)

There is no universal definition of quality. The slide above shows that quality is perceived differently by different people and experts. The exercise of the previous slide probably results in many different perceptions of quality

Many different definitions on quality are given in the literature. Quality has been defined as: *value* (Abbott, 1955; Feigenbaum, 1951), *conformance to specifications* (Gilmore, 1974; Levitt, 1972), *conformance to requirements* (Crosby, 1979), *fitness for use* (Juran, 1974, 1988), *loss avoidance* (Taguchi, cited in Ross, 1989), and *meeting and/or exceeding customers' expectations* (Grönroos, 1983; Parasuraman, Zeithaml & Berry, 1985). Regardless of the time period or context in which quality is examined, the concept has had multiple and often muddled definitions and has been used to describe a wide variety of phenomena (Reeves, 1994).

The International Organization of Standardization (ISO) supplies us with the most popular and probably the only definition on food quality agreed on by almost all people coming from different backgrounds and working in this area, in politics, industry or sciences, defining quality as: "the totality of features and characteristics of a product or service that bear on its ability to satisfy stated or implied needs" (ISO 8402) (Becker, 2000).



(Schoorlemmer, 2003)

The discussion on the definition on quality can keep on indefinitely. A generally accepted conclusion on quality is the following: "When the customer returns and not the products". A satisfied customer will come back and buy more of your products whereas a customer that is not satisfied with the quality will not return.

(Jongen, 1998)

The correlation between quality and product quality can be explained by the concept Total Quality Management. All definitions given relate to Total Quality Management. EU Marketing Standards (quality standards) are related to product quality, which is only a part of the Total Quality, which is not only determined by the product. Other aspects, like service, communication, and reliability are also important factors in the quality perception of customers.

Product safety is part of the Product Quality. There is no quality if there is a lack of safety and quality is more than product safety. The elements and contents of product safety will not be discussed further in this document. The demands on product safety for farmers in the European Union have been laid down in the General Food Law of the EU. This presentation only focuses on product quality and not on product safety and total quality elements.

(Meza, 2005)

Besides product safety, external and internal characteristics are more specific aspects in consumer quality perception of fruit and vegetables. Before buying fruit or vegetable in the market place or in a supermarket, consumers assess external characteristics, like cleanliness, colour, freshness, shape, presentation and packaging. But internal characteristics are important as well. New technologies and regulations (standards) are developed to test or regulate internal characteristics.

The focus on quality assurance is related to changes in the global food supply chain. These changes have led to (international) legislation on product quality.

(Meza, 2005)

A number of changes in the global food supply chain are given in the slide above. These changes have led to the current situation. The current market is a consumer market. Consumer demands play a critical role in the food supply chain. Consumers instead of producers determine products, quality and safety requirements.

The interconnection of international supply chains increases. International trade makes it much easier for a retail chain to purchase products from abroad for a local retail branch. Supermarkets are operating more and more on a global scale. The (multinational) supermarkets are present in a number of countries which means that they can buy in bulk for a complete region, like Central Europe.

The international trade brings about its own standards. An example: the absence of a safe production standard in the food supply chain has led to co-operation between retailers across Europe. European retailers developed the Eurep-GAP certificate. New technologies can lead to new types of quality testing. In the future it will perhaps be possible to determine the internal quality of a food product. These changes influence today's farmers.

(Schoorlemmer, 2003)

Some changes in the food supply chain and the reaction of the industry to these changes are presented in the slide above. As already mentioned, consumers are more in control. Retail is, therefore, consumer– driven. Retailers want to distinguish from their competitors by selling products with a high quality and service level (added value).

Another social change that has lead to changes in the supply chain is mass individualization. Consumers do not all want the same jacket, trousers or car. The T-Ford was sold in just one colour: black. Today consumers want to decide on the colour of their car themselves. And this is true for other products.

People are more internationally orientated. ICT technological developments and improved means of transport brought the world within reach. Products from Africa or Asia are common in retail and products from around the world are now available in local supermarkets. Trade has therefore become more internationally oriented. Costumer protection has led to a change in liability. The producer is liable for the product he or she sells. The producer must focus on controlling the processes and risks to protect his company from liability charges.

Ecology has become more and more important. Consumers became more aware of the effects of their purchases on the environment. The product must be produced in environmentally friendly way. Meeting this demand urgently requires a systematic approach of production and/or co-operation.

(Schoorlemmer, 2003)

The supermarkets in developing countries are facing similar bottlenecks. Analysis of these bottlenecks shows that supermarkets often face unstable supply (sometimes there is no delivery or delivery is too late). Supermarkets have to deal with many different suppliers, resulting in high handling costs (supermarkets buy in big quantities that cannot be met by individual farmers; supermarkets therefore often need more than one supplier of the same product). Often, product quality (of vegetables) is not uniform. There is little or no quality control in the vegetable supply chain. Supermarkets do not know how products are produced (the lack of insight into production methods led to the development of e.g. Eurep-GAP; retailers want to make sure the product they sell is safe and causes no harm to their customers). Tracking and tracing is poorly organized in the vegetable supply chain (if products (vegetables) for example exceed the MRL (Maximum Residue Level) it is hard or even impossible to trace it back to the responsible farmer).

Retailers demand from farmers a 'license to deliver'. The producer must be able to meet these demands of the retailer. Retailers' demands made on farmers include:

- Supply security (enough and of the desired quality at any moment demanded by the retailer).
- Timely delivery (delivered at the time that fits the retailer best (in order to keep stocks as small as possible to reduce retailers' costs and space).
- Year-round (in the past customers would eat what is available; they now demand year-round supply of the same product).

- Variation, fresh and safe (there should be a wide variety of fruits and vegetables to please the customer and the products, especially vegetables, should be fresh and safe (free from pathogenic micro-organisms (food borne pathogens), chemical contaminants (pesticides above MRL, grease) and physical contaminants (glass, wood)).

(Schoorlemmer, 2004)

All changes in the vegetable supply chain are translated into a number of messages for growers. Due to the increasing significance of supermarkets and hypermarkets in developing countries local spot markets are no longer reliable places for secure sales. Supermarket chains sell big volumes and often buy in bulk. Small independent growers are often not able to supply the volumes required by supermarkets. Cooperation between growers is a possibility to react to this development.

Another development is the knowledge and awareness of consumers of product quality and food safety. Especially food safety scandals, which are communicated through the media, can damage companies or countries.
A general observation is that a pro-active attitude has a positive effect on the relationship with market parties.

(Meza, 2005)

A number of developments on quality standards have led to international quality standards. Countries use national quality standards to facilitate and regulate trade within their borders. Due to growing international trade, for example by supermarkets, national quality standards became barriers to international trade. Increased globalization makes quality standards more and more important to facilitate and regulate international trade. Differences between national regulations became barriers to international trade.

(Meza, 2005)

International quality standards are designed to remove the barriers in national quality standards. The international standard is the same in every country. This means that 'Class I' classification is the same in every country, which creates equal opportunities for all supply chain parties.

The Economic Commission on Europe of the United Nation (UN-ECE) draws up quality standards to improve trade between nations and especially within the EU. The following chart shows that the UN-ECE standard is used by many different international parties.

(Meza, 2005)

The UN-ECE standards are used by national governments, EU, FAO-WHO Codex Alimentarius Commission, and OECD. They use the UN–ECE standard as reference or basis for their national, European or international standard or prepare an explanatory brochure as supplement to the quality standard.

(Meza, 2005)

UN-ECE member states are not just European or EU countries. All UN member countries can participate in the development of UN-ECE standards. The UN-ECE standards are also used by countries outside Europe. A broad international basis creates a bigger level playing field for countries involved.

(Meza, 2005)

The UN–ECE has drawn up a number of quality standards; the slide above gives some insight in the number of UN-ECE standards.

Why did the EU recognize the importance of quality standards? The fruit and vegetables policy of the EU centres on four main criteria: the diversity of production types, the perishable nature of many products, the need to improve product quality, and the importance of trade (EU, 2003).

The adaptation of the quality standards by the EU is based on reducing transaction costs and adding value. The EU has simplified administrative procedures related to international fruit and vegetable trade. This approach reduces the delivery times, administrative and overhead costs for trading within and outside the EU. It also allows national controllers to concentrate their activities on products for which no significant quality guarantee is available to buyers and consumers in the EU.

The EU adopted the quality standards of the UN-ECE. These quality standards are called marketing standards. The European Marketing Standard is practically identical to the UN–ECE standards; this makes sure the EU lives up to its policy to ensure free trade within and outside the EU and reduces transaction costs.

(Meza, 2003)

The EU Marketing Standards for fruit and vegetables make it possible for buyers to purchase a product without visiting the producer of trader. The EU Marketing Standards gives the supply chain parties an indication of the price range for the product based on its classification (Class I or Class II). The EU Marketing Standard also includes quality, sizing, tolerances, packaging and presentation requirements.

Why do growers need to comply with these quality standards? The first reason is to comply with national and European legislation. Based on the EU Marketing Standard it is mandatory to comply with the standard if growers trade their product.

The standards also give growers easier access to international markets. The quality standards are the same for growers in many different countries. This means that a grower needs to produce quality products to compete with growers in other states. Quality can be a way to distinguish from other producers. A uniform and high quality gives the grower an edge over his competitors.

Developments in international trade created the need for marketing standards, which are of growing importance for growers around the world. International standards are not only a threat but also an opportunity for growers. Compliance with (trade/marketing) standards can result in access to the world market.

Quality is only one part of total quality assurance. Product safety and company requirements, like reliability, flexibility and certification, are also elements that influence total quality perception.

The OECD drew up explanatory brochures for a number of fruits and vegetables. The UN-ECE standards are incorporated into the EU marketing standards. The national inspection of each EU Member State is controlling compliance with the EU marketing standards. Control of the standards is important to make sure the quality standards remain useful and valuable. A standard that is not checked or controlled becomes redundant or obsolete.

This exercise is designed to let the workshop participants work out their own quality standard. After the presentation of the Inspection Service, the participants will see whether their definition of Class I and Class II will match the classification given by the Inspection Service.

The participants should again split up into groups of three. Each group receives a flip-over sheet to write down their definition of Class I and Class II onions. As reference an empty UN -ECE Standard Lay-out can be handed out to the participants. The completed flip-over sheets are collected for discussion at the end of the day after the presentation of the Inspection Service.

The empty UN-ECE standard lay-out is added as attachment to this training manual.

Consulted literature

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Evaluation form

We are interested in your opinion of this workshop.

1. Did the workshop answer your expectations:
   - □ Answered more than expected
   - □ Answered expectations
   - □ Did not answer expectations. What did you miss: _____

2. Presentation 1 _____
   Presenter _____

   Contents

- Is the information clear	Good	Sufficient	Bad
- Is the information useful	Good	Sufficient	Bad
Presentation	Good	Sufficient	Bad

3. Presentation 2 _____
   Presenter _____

   Contents

- Is the information clear	Good	Sufficient	Bad
- Is the information useful	Good	Sufficient	Bad
Presentation	Good	Sufficient	Bad

4. Presentation 3 _____
   Presenter _____

   Contents

- Is the information clear	Good	Sufficient	Bad
- Is the information useful	Good	Sufficient	Bad
Presentation	Good	Sufficient	Bad

5. Presentation 4 _____
   Presenter _____

   Contents

- Is the information clear	Good	Sufficient	Bad
- Is the information useful	Good	Sufficient	Bad
Presentation	Good	Sufficient	Bad

6. The exercises showed a good relationship with the presentations:
   - □ Agree
   - □ Disagree

7. The level of the exercises was:
   - □ High
   - □ Average
   - □ Low

8. The information of the presentations matches well with the daily farm activities:
   - □ Agree
   - □ Disagree

9. The workshop stimulates/motivates to use quality standards in daily practice:
   - □ Agree
   - □ Disagree

10. The facilities were:
    - □ Good
    - □ Sufficient
    - □ Moderate
    - □ Dissatisfactory
    - □ Bad

11. In the workshop I missed:
    - □ Nothing
    - □ The following subjects: _____

12. In general the workshop was:
    - □ Very satisfactory
    - □ Satisfactory
    - □ Moderately satisfactory
    - □ Unsatisfactory
    - □ Very unsatisfactory

    Remarks: _____
    _____

13. Suggestions for this workshop or ideas for follow-up workshops:

    _____

    _____

Thank you for your co-operation !

Evaluation form for trainers

General impression

1. What was your first impression of the workshop?
2. Did the workshop answer your expectations?
3. What is your opinion on quality standards and their use?
4. What, in your opinion, are the benefits and disadvantages of the workshop?

Programme and material

5. Where do you see possible room for improvement?
6. Did we reach our goal with the workshop?
7. Was the preparation for the workshop sufficient?

Participants

8. Did, in your opinion, the participants learn new information?
9. Was the information clear and understandable to all participants?
10. Did the workshop relate to the daily activities of growers?

Process

11. Was the toolkit complete and sufficient? Was the toolkit ready in time?

Future

12. Do you see possibilities to have the workshop with other groups?

Can you use the presentations/information in your work?

Empty standard lay out

STANDARD LAYOUT FOR UNECE STANDARDS

Concerning the marketing and commercial quality.
Control of Fresh Fruit and Vegetables.

UNECE STANDARD FFV-25

Concerning the marketing and commercial
quality control of Onions

I. DEFINITION OF PRODUCE

This standard applies to onions of varieties (cultivars) grown from *Allium cepa L.* to be supplied fresh to the consumer in the natural state, green onions with full leaves and onions for industrial processing being excluded.

II. PROVISIONS CONCERNING QUALITY

The purpose of the standard is to define the quality requirements of onions at the export control stage, after preparation and packaging.

A. Minimum requirements

In all classes, subject to the special provisions for each class and the tolerances allowed, the bulbs must be:

-
-
-
-
-
-
-

In addition …..

The produce must be sufficiently developed, and display satisfactory ripeness, depending on the nature of produce.

The development and condition of the onions must be such as to enable them:
- to withstand transport and handling, and
- to arrive in satisfactory condition at the place of destination.

B. Classification

The onions are classified in two classes defined below.

(i) Class I

Onions in this class must be of good quality. They must be characteristic of the variety and/or commercial type.

The bulbs must be:
.....
.....
.....
.....
.....

{Provisions depending on the nature of produce}

The following slight defects, however, may be allowed provided these do not affect the general appearance of the produce, the quality, the keeping quality and presentation in the package:
.....
.....
.....
.....
.....

{Defects allowed, depending on the nature of produce}

(ii) Class II

This class includes ..... which do not qualify for inclusion in the higher classes but satisfy the minimum requirements specified above.

They must be:
.....
.....
.....
.....
.....
{Provisions depending on the nature of produce}

The following defects may be allowed provided the ..... retain their essential characteristics as regards the quality, the keeping quality and presentation:
.....
.....
.....
.....
.....
{Defects allowed, depending on the nature of produce}.

UN-ECE quality standard onions

NOTE BY THE SECRETARIAT: This text is based on document TRADE/WP.7/2001/9/Add.4. It includes the changes adopted at the 59th session of the Working Party (TRADE/WP.7/GE.1/2003/26/Add.3).

English version editorially corrected 4/12/2003.

UN/ECE STANDARD FFV-25

concerning the marketing and commercial
quality control of

ONIONS

I. DEFINITION OF PRODUCE

This standard applies to onions of varieties (cultivars) grown from *Allium cepa L.* to be supplied to the consumer in the natural state, green onions with full leaves and onions for industrial processing being excluded.

II. PROVISIONS CONCERNING QUALITY

The purpose of the standard is to define the quality requirements for onions at the export control stage, after preparation and packaging.

A. Minimum requirements

In all classes, subject to the special provisions for each class and the tolerances allowed, the bulbs must be:

- intact;

Picture 1 – Not allowed (Cebula, 2005)

Picture 2 – Signs of rotting – Not allowed (Cebula, 2005)

- sound; produce affected by rotting or deterioration such as to make it unfit for consumption is excluded

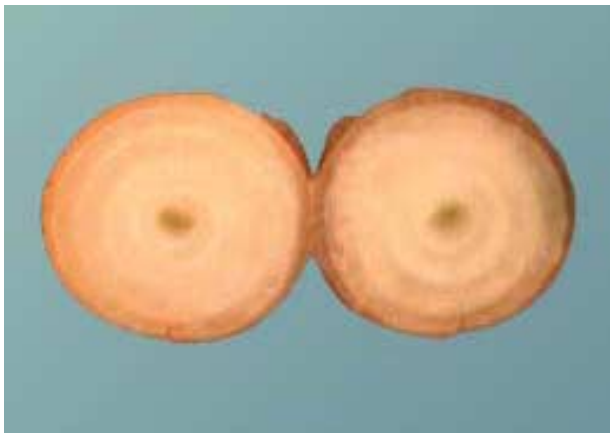
Picture 3 – Signs of rotting – Not allowed (Cebula, 2005)

Picture 4 – Signs of rotting – Not allowed (Cebula, 2005)

- clean, practically free of any visible foreign matter

Picture 5 – Onions of contaminated land – Not allowed (Cebula, 2005)

- free from damage due to frost



Picture 6 – Onions of contaminated land – Not allowed (Cebula, 2005)

- sufficiently dry for the intended use (in the case of pickling onions, at least the first two outer skins and the stem must be fully dried)

Picture 7 – Sufficiently dried – Allowed (Cebula, 2005)

- without hollow or tough stems
- practically free from pests
- practically free from damages caused by pests
- free of abnormal external moisture
- free of any foreign smell and/or taste.

In addition the stems must be twisted or clean cut and must not exceed 6cm in length (except for stringed onions).

The development and condition of the onions must be such as to enable them:

- to withstand transport and handling, and
- to arrive in satisfactory condition at the place of destination.

Picture 8 – The stem does not exceed 6 cm in length – Allowed (Cebula, 2005)

Picture 9 – Cut stem (Cebula, 2005)

Picture 10 – Twisted stem (Cebula, 2005)

B. Classification

The onions are classified in two classes defined below:

(i) ***Class I***

Onions in this class must be of good quality. Their characteristics must be typical of the variety.

The bulbs must be:

- firm and compact
- unsprouted (free from externally visible shoots)
- free from swelling caused by abnormal vegetative development
- practically free of root tufts; however, for onions harvested before complete maturity, root tufts are allowed.

Picture 11 – Class I Onions (Cebula, 2005)

Picture 12 – Not allowed (Cebula, 2005)

Picture 13 – Admissible root tufts (Cebula, 2005)

The following defects, however, may be allowed, provided they do not affect the general appearance of the produce, the quality, the keeping quality or presentation in the package:

- a slight defect in shape

Picture 14 – Correct form onion (Cebula, 2005)

Picture 15 – Slight defect in shape (Cebula, 2005)

Picture 16 – Slight defect in shape (Cebula, 2005)

Picture 17 – Double onion, abnormal vegetative development – Allowed (Cebula, 2005)

Picture 18 – Double onion, abnormal vegetative development – Allowed (Cebula, 2005)

Picture 19 – Double onion, abnormal vegetative development – Not allowed (Cebula, 2005)

Picture 20 - Double onion, abnormal vegetative development – Not allowed (Cebula, 2005)

Picture 21 – Incorrect shape – Not allowed (Cebula, 2005)

- a slight defect in colouring

Picture 22 – Slight defect in colouring (Cebula, 2005)

- light staining which does not affect the last dried skin protecting the flesh, provided it does not cover more than one fifth of the bulb's surface

Picture 23 – Small spots for 1/5 of the surface – Allowed (Cebula, 2005)

- superficial cracks in, and partial absence of the outer skins, provided the flesh is protected.

Picture 24 – Partial absence of outer skin – Allowed (Cebula, 2005)

Picture 25 – Partial outer skin missing – Allowed (Cebula, 2005)

(ii) Class II

This class includes onions which do not qualify for inclusion in Class I, but satisfy the minimum requirements specified above. They must be reasonably firm.

The following defects may be allowed provided the onions retain their essential characteristics as regards the quality, the keeping quality and presentation:

- defect in shape

Picture 26 – Admissible defect in shape – Allowed (Cebula, 2005)

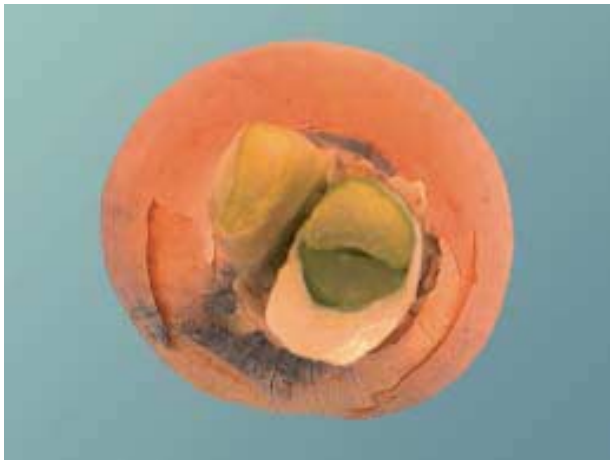
Picture 27 – Admissible defect in shape – Allowed (Cebula, 2005)

Picture 28 – Double onion – Allowed (Cebula, 2005)

Picture 29 – Multiple onions – Not allowed (Cebula, 2005)

Picture 30 – Multiple onions – Not allowed (Cebula, 2005)

- defect in colouring
- early evidence of externally visible shoot growth (no more than 10 per cent by number or weight by unit of presentation)



Picture 31 – Visible shoot growth – Not allowed (Cebula, 2005)

- traces due to rubbing
- slight marking caused by parasites or diseases
- small healed cracks
- slight bruising, healed, unlikely to impair keeping qualities

Picture 32 – Slight bruising – Allowed (Cebula, 2005)

- root tufts
- stains which do not affect the last dried skin protecting the flesh, provided they do not cover more than half the bulb's surface

Picture 33 – Stains for ½ of the surface – Allowed (Cebula, 2005)

- cracks in the outer skins and partial absence of over a maximum of one third of the bulb's surface, provided the flesh is not damaged.

Picture 34 – Partial outer skin missing – Allowed (Cebula, 2005)

III. PROVISIONS CONCERNING SIZING

Size is determined by the maximum diameter of the equatorial section. The difference between the diameters of the smallest and largest onions in the same package must not exceed:

- 5 mm where the diameter of the smallest onion is 10 mm and over but under 20 mm. However, where the diameter of the onion is 15 mm and over but under 25 mm, the difference may be 10 mm
- 15 mm where the diameter of the smallest onion is 20 mm and over but under 40 mm
- 20 mm where the diameter of the smallest onion is 40 mm and over but under 70 mm
- 30 mm where the diameter of the smallest onion is 70 mm or over.

The minimum diameter is fixed at 10 mm.

Picture 35 – 15 – 35 mm difference in diameter (Cebula, 2005)

Picture 36 – 20 – 35 mm difference in diameter (Cebula, 2005)

IV. PROVISIONS CONCERNING TOLERANCES

Tolerances in respect of quality and size shall be allowed in each package (or in each batch, for onions in bulk) for produce not satisfying the requirements of the class indicated.

A. Quality tolerances

(i) Class I

10 per cent by number or weight of onions not satisfying the requirements of this class, but meeting those of Class II or, exceptionally, coming within the tolerances of that class.

(ii) Class II

10 per cent by number or weight of onions satisfying neither the requirements of the class nor the minimum requirements with the exception of produce affected by rotting or any other deterioration rendering it unfit for consumption.

B. Size tolerances

For all classes: 10 per cent by number or weight of onions not satisfying the size identified, but with a diameter of no more than 20 per cent below or above it.

V. PROVISIONS CONCERNING PRESENTATION

A. Uniformity

The contents of each package (or lot, for produce presented in bulk) must be uniform and contain only onions of the same origin, variety, quality and size.

However, sales packages, of a net weight not exceeding three kilogrammes, may contain mixtures of onions of different colours, provided that they are uniform in quality, and, for each colour concerned, in origin, variety and size.

Picture 37 – Uniform onions (Cebula, 2005)

The visible part of the contents of the package (or lot, for produce presented in bulk) must be representative of the entire contents.

B. Packaging

Onions must be packed in such a way as to protect the produce properly.

The materials used inside the package must be new, clean and of a quality such as to avoid causing any external or internal damage to the produce. The use of materials, and in particular of paper or stamps bearing trade specifications is allowed, provided the printing or labelling is done with non-toxic ink or glue.

Stickers individually affixed on the produce shall be such that, when removed, neither leave visible traces of glue, nor lead to skin defects.

Packages must be free of all foreign matter.

C. Presentation

Onions may be presented:

- arranged in layers
- loose in a package (including bulk bins)
- transported in bulk
- in strings
- either of a certain number of bulbs, in which case the strings must contain at least six onions (with fully dried stems)
- or of a certain net weight.

For stringed onions, the characteristics of the strings in any one package (number of bulbs or net weight) must be uniform.

Picture 38 – Example of packaging (Cebula, 2005)

Picture 39 – Example of packaging (Cebula, 2005)

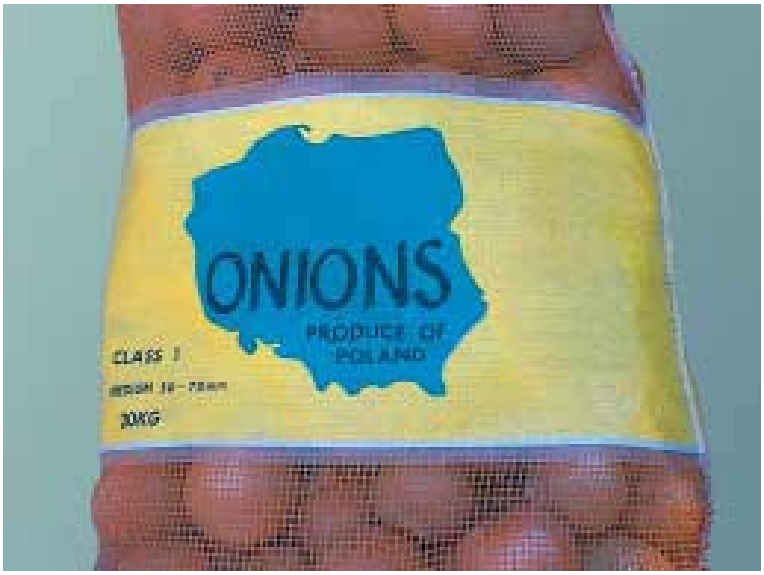
Picture 40 – Example of packaging (Cebula, 2005)

Picture 41 – Example of retail packaging (Cebula, 2005)

VI. PROVISIONS CONCERNING MARKING

Each package[1] must bear the following particulars in letters grouped on the same side, legibly and indelibly marked, and visible from the outside:

(For onions transported in bulk (direct loading into a transport vehicle) these particulars must appear on a document accompanying the goods, and attached in a visible position inside the transport vehicle.)



Picture 42 – Example of packaging (Cebula, 2005)

Picture 43 – Example of packaging (Cebula, 2005)

[1] Package units of produce prepacked for direct sale to the consumer shall not be subject to these marking provisions but shall conform to the national requirements. However, the markings referred to shall in any event be shown on the transport packaging containing such package units.

A. Identification

Packer	)	Name and address or
and/or	)	officially issued or
Dispatcher	)	accepted code mark.[1]

B. Nature of produce

- "Onions" if the contents are not visible from the outside.
- In the case of sales packages containing a mixture of different colours of onions:
- 'Mixed onions' or equivalent denomination,
- If the contents are not visible from the outside, the indication of each of the colours present in
- the package and of the minimum number of pieces of each of the colours concerned.

C. Origin of produce

- Country of origin and, optionally, national, regional or local place name.
- In the case of sales packages containing a mixture of onions of different colours and different origins, the indication of each country of origin shall appear next to the name of the colour concerned."

D. Commercial specifications

- Class
- Size expressed by minimum and maximum diameters
- Net weight.

E. Official control mark (optional)

Published 1961
Revised 1988, 2001, 2003
The UNECE Standard for Onions
has led to an explanatory brochure published by the OECD Scheme

[1] The national legislation of a number of countries requires the explicit declaration of the name and address. However, in the case where a code mark is used, the reference "packer and/or dispatcher (or equivalent abbreviations)" has to be indicated in close connection with the code mark.

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