

LEGAL ASPECTS OF THE QUINOA IMPORTS INTO THE EU

PRÁVNE ASPEKTY DOVOZU QUINOY DO EÚ

Jarmila LAZÍKOVÁ* – Ivan TAKÁČ* – Eric RENDÓN SCHNEIR** – Ľubica RUMANOVSKÁ*

I. Introduction

Quinoa (lat. *Chenopodium quinoa*) is a pseudo-cereal which is used as cereals in the countries of its origin such as Peru, Bolivia and Chile. It is one of the oldest crops domesticated thousands of years ago in Andean region of South America⁽¹⁾. At first, it was used to feed livestock five thousand years ago and later also for human consumption in the Lake Titicaca basin of Peru and Bolivia⁽²⁾. With the colonization of Europeans its cultivation was replaced by cereals and quinoa preserved only in remote areas of South America. After centuries of neglect, the potential of quinoa was rediscovered during the second half of the 20th century⁽³⁾. Nowadays, Peru and Bolivia are the biggest producers of quinoa in the world⁽⁴⁾. Quinoa became famous due to its positive healthy effects. It is also included to the super-foods. The United Nations General Assembly has declared 2013 as the “International Year of Quinoa”, in recognition of ancestral practices of the Andean people, who have managed to preserve quinoa in its natural state as food for present and future generations, through ancestral practices of living in harmony with nature⁽⁵⁾. Moreover, quinoa was selected

⁽¹⁾ Fuentes et al. (2008).

⁽²⁾ Kolata (2009).

⁽³⁾ Bazile et al. (2016).

⁽⁴⁾ FAO (2020).

⁽⁵⁾ FAO (2013).

Abstract (EN)

Quinoa is known in the EU as superfood due to the high level of protein, fibre, micronutrients, and amino acids. It is come from South America; however, quinoa is currently grown in various parts of the world. Nevertheless, the domestic continent, especially countries such as Peru and Bolivia, is one of the world's largest producers and exporters of quinoa. One third of Peru's quinoa production is imported to European Union. Despite the conclusion of an agreement with Peru and Bolivia that eliminated quinoa tariffs, there are many legal regulations of the EU that affects import of quinoa into the EU countries including the food safety and quality, food labelling, organic labels and nutrition and health claims, food packaging and shipment. The article deals with the most important EU legal norms of quinoa imports that must be complied with when importing quinoa.

Keywords (EN)

quinoa, European Union law, food safety, food labelling, food packing

by NASA as a preferred food for its astronauts on board space missions due to its nutritional composition⁽⁶⁾. The experiments to cultivate quinoa in other parts of the world were realised on the end of the 20th century in USA, Canada, Africa (Morocco, Kenya, Malawi), Europe (Great Britain, Netherlands, Germany, Spain and France)^{(7), (8), (9), (10)}. During 2013–2015, evaluation of quinoa varieties was conducted in Central and Southern Asia (Kyrgyzstan, Tajikistan, Sri Lanka, and Bhutan); Western Asia (Iraq, Iran, Lebanon, and Yemen); and Africa (Algeria, Egypt, Mauritania, Sudan, Djibouti, Kenya, Somalia, South Sudan, Ethiopia, Uganda, Zambia, Burkina Faso, Cameroon, Chad, Niger, Senegal, Togo, Ghana and Guinea)⁽¹¹⁾. Due to the climate changes the cultivation of quinoa is possible also in the middle Europe including Slovakia⁽¹²⁾. Moreover, its biodiversity and ability to sustain in adverse climatic conditions makes it an ideal crop to cultivate worldwide especially in under devel-

⁽⁶⁾ Schlick, Bubenheim (1993).

⁽⁷⁾ Bazile, Baudron (2015).

⁽⁸⁾ Herencia et al. (1999).

⁽⁹⁾ Maliro, Guwela (2015).

⁽¹⁰⁾ Hirich et al. (2021).

⁽¹¹⁾ Bazile et al. (2016).

⁽¹²⁾ Čičová (2021).

Abstrakt (SK)

Quinoa je v EÚ známa ako superpotravina vďaka vysokému obsahu bielkovín, vlákniny, mikroživín a aminokyselín. Pochádza z Južnej Ameriky, ale v súčasnosti sa quinoa pestuje v rôznych častiach sveta. Napriek tomu je jej domáci kontinent, najmä krajiny ako Peru a Bolívia, jedným z najväčších svetových producentov a exportérov. Jedna tretina produkcie quinoj v Peru sa dováža do Európskej únie. Napriek uzavretiu dohody medzi EU na jednej strane a Peru a Bolíviu na strane druhej, ktorá zrušila clá na dovoz tejto plodiny, existuje množstvo právnych predpisov EÚ, ktoré ovplyvňujú jej dovoz do krajín EÚ, ako sú napr. pravidlá bezpečnosti a kvality potravín, označovania potravín, ekologických označení a výživových a zdravotných tvrdení, právne predpisy týkajúce sa balenia a prepravy potravín. Článok sa zaoberá najdôležitejšími právnymi normami EÚ, ktoré je potrebné pri dovoze quinoj z tretích krajín dodržiavať.

Kľúčové slová (SK)

quinoa, právo Európskej únie, bezpečnosť potravín, označovanie potravín, balenie potravín

* Slovak University of Agriculture in Nitra, Slovakia

** National Agrarian University in La Molina, Peru

oping countries of Asia and Africa, where food production is threatened by global climatic changes⁽¹³⁾. Quinoa has a great potential for producers and consumers in Morocco and can be a judicious solution toward achieving food and nutritional security⁽¹⁴⁾. Jaikishun et al. (2019) recommended that more countries should be encouraged to commence quinoa cultivation, especially those with high vulnerability to climate change and food security because quinoa is a crop that is superior to others in many aspects, such as its extraordinary adaptability to adverse weather conditions⁽¹⁵⁾, ⁽¹⁶⁾ and its adequate nutritional composition. Quinoa contains all amino acids needed for human health and is also gluten-free; moreover, has twice as much protein as maize, barley and wheat⁽¹⁷⁾, ⁽¹⁸⁾ and more micronutrients than most staple grains, including wheat, rice and barley⁽¹⁹⁾. Growing quinoa is labour intensive, especially during harvest. However, Quinoa tolerates drought, nutrient-poor soils, and even saline soils. On the other hand, clay soils are not suitable for growing it. In addition, quinoa prefers colder weather, but does not like frost. The weather in Central and Southern Europe is suitable for quinoa, but these parts of the EU have the highest proportion of clay soils unsuitable for quinoa cultivation⁽²⁰⁾. Therefore, the most of quinoa is imported into the EU, mainly from the countries of origin, Peru and Bolivia. However, the EU developed a strict set of legal rules that imported quinoa need to comply with, such as food safety and quality requirements, food labelling, organic labels and nutrition and health claims, food packaging and shipment including waste management, and certifications as an extra guarantee. The article deals with the most important legal norms of quinoa imports, especially those that must be complied with when importing quinoa.

II. Objective and Methodology

The objective of the paper is to identify the legal aspects of quinoa import into the EU from the third states. The paper identifies and summarises the main objectives of these legal rules of the EU.

The paper used the normative EU legal acts, the particular reports, relevant political documents and opinions from the scientific publications.

For the legal and political documents, the methods of jurisprudence such as logical methods and formal legal methods were used, that are necessary for the interpretation of normative legal acts of the EU and sociological methods, especially methods of examining various documents that preceded or accompanied the emergence of normative legal acts as well as documents resulting from application practice in this area.

III. Results

3.1 Basic information about origin of quinoa

Quinoa was originally called the “mother grain.” It was domesticated 3,000–5,000 years ago by the Inca civilization that was situated in the Andean Region of South America. Quinoa is often labelled as a superfood because it is not only gluten-free but also contains more protein, vitamins, minerals, and fibre than the usual grains and seeds. Quinoa is rich in antioxidants that can prevent damage to the heart and other organs, so it is associated with a reduced risk of heart disease. In addition, it lowers cholesterol and blood sugar levels, thereby reducing the risk of diabetes. It has a high content of antioxidants and anti-inflammatory phytonutrients, which can be beneficial in the prevention and treatment of diseases. Quinoa contains all essential amino acids, a small amount of omega-3 fatty acids and, unlike other cereal grasses, has a higher content of mono-unsaturated fats. In addition, this crop is a good source of vitamins and minerals such as calcium and magnesium.

Quinoa come in a variety of colours being the most common colours white, red, and black, but also exists in purple, pink, gray, orange, green, and yellow colours. Nevertheless, the white quinoa is the most known and widespread type of quinoa. This is because it cooks the fastest. Unlike red and black, white quinoa is not crunchy at all.

Quinoa is native to alpine countries such as Bolivia and Peru. Originally, the seeds were used only to feed livestock. Then, after the domestication and adaptation process, people began to use it for their own consumption. In Peru and Bolivia, there are two civilizations that traditionally consume quinoa, the Aymara and the Quechua, who use this crop for nourishment and also as a sacred element during their rituals and religious ceremonies.

Quinoa is the seed from the *Chenopodium quinoa* from the amaranth family which is very robust. Quinoa is used as cereal crop. It is an annual plant. It grows better in cold, dry climates. Higher temperatures affect the number of seeds that can be harvested. Moreover, Quinoa is a facultative halophytic plant species with the most tolerant varieties being able to cope with salinity levels as high as those present in sea water (Adolf et al., 2013). The ripening time of quinoa is six months for the most common variety, which is a limiting factor for farmers who want to rotate crops annually. The process of collecting and purifying quinoa in the Andes is time and labour intensive and is not carried out mechanically, but mainly manually by traditional methods. Today, almost all production in the Andean region is carried out by small farms and associations. Average yields per hectare of land are 1.40 tons of quinoa. However, quinoa cultivation has spread to more than 120 countries of the world. This increase was due to growing interest, market development, research and promotion. According to Jacobsen (2020) this new scenario brings new competitors for the Andean region where quinoa is produced in both traditional and intensive production systems. In this sense, some of the main challenges are volatile yields, low levels of technology, fragile ecosystems and unclear rules on sharing the benefits of conserving Andean genetic resources.

⁽¹³⁾ Singh et al. (2016).

⁽¹⁴⁾ Rafik et al. (2020).

⁽¹⁵⁾ Ruiz et al. (2014).

⁽¹⁶⁾ Stikić et al. (2015).

⁽¹⁷⁾ Repo-Carrasco et al. (2003).

⁽¹⁸⁾ Stikić et al. (2012).

⁽¹⁹⁾ Mehdi, Abdelaziz (2018).

⁽²⁰⁾ Soil Data Maps (2022).

3.2 Legal aspect of quinoa import into the EU

The foreign trade with the third country is regulated by the EU law including not only Common Customs Tariff but also the rules related to the food safety and quality requirements, food labelling, organic labels and nutrition and health claims, food packaging and shipment, and certifications as an extra guarantee.

3.2.1 Food safety and control

The European Union has one of the strictest requirements for food safety. Food safety means a criterion defining the acceptability of a product or a batch of foodstuff applicable to products placed on the market (Art 2c) of Commission regulation 2073/2005. The quinoa importers have to work according to the rules of Hazard Analysis Critical Control Points (called as HACCP) which is valid in the EU since 1997. In Slovakia, the HACCP is included in the Act no. 152/1995 Coll. on foods and in the Codex alimentarius of the Slovak Republic. The HACCP system is based on prevention including continuous inspection of materials, conditions, and processes. The operator of a company carries out regular controls which are focused on achieving hygiene and health safety of food. The HACCP should be applied throughout the food chain from agricultural production to final consumption. The amending of the HACCP is to identify dangerous raw materials and foodstuffs regarding the pathogens and toxic substances; to determine whether raw materials and foodstuffs are able to support the reproduction of microorganisms; to identify possible sources of danger and places of contamination; to determine the likelihood that microorganisms in food will survive or reproduce when food handling; and to assess the health seriousness and risk of dangerous⁽²¹⁾. The food hygiene control system is based on seven principles such as hazard analysis and possible risks analysis at all stages of the food production; identifying the critical control points; determination of critical limits; determination of control systems at critical control points; identifying corrective measures focused on elimination the gaps from critical limits; determination the method of keeping documentation of identified risk data and corrective actions taken; and determination of the system for checking the effectiveness of the system (§ 257 of Codex Alimentarius).

Mainly the content of pesticides, contaminants and microorganisms has to be in the limits stipulated by the EU law. There are about 500 species of residues that have not to exceed maximum level which ranges from 0.001 mg/kg to 50 mg/kg depending on the species of pesticides; on average, maximum level is 0.01 mg/kg⁽²²⁾. However, bio quinoa has not to have any chemical traces of pesticides.

Contaminants are substances not intentionally added to food which are present in such food as a result of the production, manufacture, processing, preparation, treatment, packaging, transport or holding of such food or as a result of environmental contamination (Art 1 of the regulation 315/93/EEC). Food containing a contaminant in an amount which is unacceptable from the public health viewpoint and in particular at

a toxicological level shall not be placed on the market (Art 2 of the regulation 315/93/EEC). The Commission regulation No 1881/2006 setting maximum levels for certain contaminants in foodstuffs are related to the following contaminants: nitrate, mycotoxins (aflatoxins, ochratoxin A, patulin, deoxynivalenol, zearalenone, fumonisins, T2 and HT-2 toxin, citrinin, ergot sclerotia and ergot alkaloids); metals (Pb, Cd, Hg, inorganic Sn, As), 3-monochloropropanediol (3-MCPD), 3-MCPD fatty acid esters and glycidyl fatty acid esters, dioxins and polychlorinated biphenyls (PCBs), polycyclic aromatic hydrocarbons, melamine, inherent plant toxins, and perchlorate. The criteria for cereals stipulated in the annex of this regulation are applicable also for quinoa. There is only one exemption. For quinoa, there is relevant maximum level of Cadmium (0.15 mg/kg) while maximum level of Cadmium for cereals is only 0.10 mg/kg.

There are also Commission regulations for the sampling and analysis of the maximum levels for contaminants: Commission Regulation (EC) No 401/2006 laying down the methods of sampling and analysis for the official control of the levels of mycotoxins in foodstuffs; Commission Regulation (EC) No 333/2007 laying down the methods of sampling and analysis for the official control of the levels of lead, cadmium, mercury, inorganic tin, 3-MCPD and polycyclic aromatic hydrocarbons in foodstuffs; Commission Regulation (EU) 2017/644 laying down methods of sampling and analysis for the control of levels of dioxins, dioxin-like PCBs and non-dioxin-like PCBs in certain foodstuffs and repealing Regulation (EU) No 589/2014; and Commission Regulation (EC) No 1882/2006 laying down methods of sampling and analysis for the official control of the levels of nitrates in certain foodstuffs.

Micro-organisms such as bacteria, viruses, yeasts, moulds, algae, parasitic protozoa, microscopic parasitic helminths, and their toxins and metabolites may present a microbiological risk for consumers of food of animal or plant origin (Art 2a) of Commission regulation 2073/2005). The relevant microbiological criteria are set out in Annex I of the Commission regulation no 2073/2005 on microbiological criteria for foodstuffs. However, there are no special provisions for cereals including quinoa.

3.2.2 Packing and labelling in general

The quinoa is usually packed into 25 kg polypropylene or paper bags; mainly the organic quinoa is packed into the paper. If the quinoa is imported into the EU, the packaging has to be complied with the requirements of the Regulation (EC) No 1935/2004 on materials and articles intended to come into contact with food and repealing Directives 80/590/EEC and 89/109/EEC. The purpose of this Regulation is to ensure the effective functioning of the internal market in relation to the placing on the market in the EU of materials and articles intended to come into contact directly or indirectly with food, whilst providing the basis for securing a high level of protection of human health and the interests of consumers (Art 1(1) of regulation 1935/2004). Materials and articles, including active and intelligent materials and articles, shall be manufactured in compliance with good manufacturing practice so that, under normal or foreseeable conditions of use, they do not transfer their constituents to food in quantities which could

⁽²¹⁾ FAO (2001).

⁽²²⁾ EU pesticide database (2022).

endanger human health; bring about an unacceptable change in the composition of the food; or bring about a deterioration in the organoleptic characteristics thereof (Art 3(1) of regulation 1935/2004).

The regulation 1935/2004 is a general legal act for rules of food packing; however, there are also laying down various types of restrictions and conditions for the use of the materials and articles covered by this regulation and the substances used in their manufacture (Art 5 of the regulation no. 1935/2004). These restrictions and conditions for specific materials for food packing are stipulated in the special legal acts such as Commission Regulation (EU) No 10/2011 on plastic materials and articles intended to come into contact with food; Commission Regulation (EU) 2018/213 on the use of bisphenol A in varnishes and coatings intended to come into contact with food; Commission Regulation (EC) No 450/2009 on active and intelligent materials and articles intended to come into contact with food; Commission Regulation (EC) No 282/2008 on recycled plastic materials and articles intended to come into contact with foods; Commission Directive 2007/42/EC relating to materials and articles made of regenerated cellulose film intended to come into contact with foodstuffs; Commission Regulation (EC) No 2023/2006 on good manufacturing practice for materials and articles intended to come into contact with food; Commission Regulation (EC) No 1895/2005 on the restriction of use of certain epoxy derivatives in materials and articles intended to come into contact with food; and Commission Directive 2005/31/EC amending Council Directive 84/500/EEC as regards a declaration of compliance and performance criteria of the analytical method for ceramic articles intended to come into contact with foodstuffs.

The food products including the quinoa are relatively often repacked. It increases the requirements for waste management (e.g. Marišová, Valenčíková 2021). In such cases, the regulation (EU) no 1169/2011 of the European parliament and of the Council on the provision of food information to consumers should be applied. Moreover, the requirements for food labelling in the EU are very strict. On the other hand, a food label is a medium to reduce the information gap between producers and consumers⁽²³⁾. Moreover, food label information should support consumers in building a well-balanced diet and in avoiding risks that may be connected with consumption of foods containing allergens⁽²⁴⁾. Labelling laws follow the main objective to prevent fraud and misleading information which should protect consumers⁽²⁵⁾.

In the EU, there were adopted a number of secondary legislation since 1979. Nowadays, there are valid two important regulations. The first one was adopted in 2002 as the regulation (EC) No 178/2002 laying down the general principles and requirements of food law, establishing the European Food Safety Authority and laying down procedures in matters of food safety was adopted. The regulation includes a key legal definition of the food law that is important also for the food labelling regulation which was adopted in 2011 (as the regulation (EU) no 1169/2011 of the European parliament and of

the Council on the provision of food information to consumers, amending Regulations (EC) No 1924/2006 and (EC) No 1925/2006 of the European Parliament and of the Council, and repealing Commission Directive 87/250/EEC, Council Directive 90/496/EEC, Commission Directive 1999/10/EC, Directive 2000/13/EC of the European Parliament and of the Council, Commission Directives 2002/67/EC and 2008/5/EC and Commission Regulation (EC) No 608/2004). The regulation includes mandatory food information that are required to be provided to the final consumer by Union provisions and voluntary food information provided on a voluntary basis.

According to the current EU legislation there are twelve mandatory pieces of information that must be present on all European Union (EU) food labels. There are product names, list of ingredients, allergens, quantitative ingredient declaration, net quantity, durability dates, storage, and instructions for use, business name and address, country of origin, nutritional declaration, and alcoholic strength (article 9 of the regulation (EU) no. 1169/2011). In addition, the mandatory information must be presented in a minimum font size⁽²⁶⁾. The mandatory particulars shall be printed on the package or on the label in such a way as to ensure clear legibility, in characters using a font size where the x-height, as defined in Annex IV, is equal to or greater than 1.2 mm. In case of packaging or containers the largest surface of which has an area of less than 80 cm², the x-height of the font size shall be equal to or greater than 0.9 mm (article 13 of the regulation no. 1169/2011). In addition, mandatory food information shall appear in a language easily understood by the consumers of the Member States where a food is marketed (article 15 of the regulation 1169/2011).

Food information provided on a voluntary basis shall meet cumulative the following requirements: (1) it shall not mislead the consumer, as referred to in Article 7; (2) it shall not be ambiguous or confusing for the consumer; and (3) it shall, where appropriate, be based on the relevant scientific data (article 36 of the regulation no. 1169/2011).

In order to clarify the rules including in the regulation no 1169/2011, the European Commission adopted some notices, such as a Commission Notice on questions and answers on the application of the Regulation (EU) No 1169/2011 (2018/C 196/01); a Commission Notice on the application of the principle of quantitative ingredients declaration (QUID) (2017/C 393/05); a Commission Notice on the provision of information on substances or products causing allergies or intolerances (2017/C 428/01); and a Commission Notice on the application of the provisions of Article 26(3) of Regulation (EU) No 1169/2011 (2020/C 32/01).

Further food information is regulated by the special legislative acts as follows:

- health claims regulated by the regulation (EC) No 1924/2006 on nutrition and health claims made on foods;
- labelling of GM foods regulated by the regulation (EC) No. 1829/2003 concerns labelling of foods which contain or consist of GMOs or are produced from or contain ingredients produced from GMOs and regulation (EC) No 1829/2003 of the European Parliament and of the Council on genetically modified food and feed;

⁽²³⁾ Dudeja, Gupta (2017).

⁽²⁴⁾ Halagarda, Popperk (2018).

⁽²⁵⁾ FAO (2016).

⁽²⁶⁾ Roche (2016)

- labelling of organic products regulated by regulation (EU) 2018/848 of the European parliament and of the Council on organic production and labelling of organic products and repealing Council Regulation (EC) No 834/2007;
- food supplements regulated by directive 2002/46/EC on the approximation of the laws of the Member States relating to food supplements concerns information to consumer requirements about food supplements;
- food for specific groups regulated by regulation (EU) No 609/2013 on food intended for infants and young children, food for special medical purposes, and total diet replacement for weight control;
- gluten information regulated by the Commission implementing regulation (EU) No 828/2014 on the requirements for the provision of information to consumers on the absence or reduced presence of gluten in food;
- country of origin regulated by Commission implementing regulation (EU) 2018/775 laying down rules for the application of Article 26(3) of Regulation (EU) No 1169/2011 of the European Parliament and of the Council on the provision of food information to consumers, as regards the rules for indicating the country of origin or place of provenance of the primary ingredient of a food; Commission implementing regulation (EU) No 1337/2013 laying down rules for the application of Regulation (EU) No 1169/2011 of the European Parliament and of the Council as regards the indication of the country of origin or place of provenance for fresh, chilled and frozen meat of swine, sheep, goats and poultry;
- food additives, food enzymes and food flavourings regulated by regulation (EC) no 1331/2008 of the European parliament and of the Council establishing a common authorisation procedure for food additives, food enzymes and food flavourings; regulation (EC) no 1332/2008 of the European parliament and of the Council on food enzymes; regulation (EC) no 1333/2008 of the European parliament and of the Council on food additives; and regulation (EC) no 1334/2008 of the European parliament and of the Council on flavourings and certain food ingredients with flavouring properties for use in and on foods;
- novel food regulated by regulation (EU) 2015/2283 of the European parliament and of the Council on novel foods; Commission implementing regulation (EU) 2017/2470 establishing the Union list of novel foods in accordance with Regulation (EU) 2015/2283 of the European Parliament and of the Council on novel foods;
- other food information such as regulation (EC) No 1925/2006 on the addition of vitamins and minerals and of certain other substances to foods; regulation (EU) No 1308/2013 establishing a common organisation of the markets in agricultural products; regulation (EU) no 1151/2012 of the European parliament and of the Council on quality schemes for agricultural products and foodstuffs; and directive 2011/91/EU of the European Parliament and of the Council on indications or marks identifying the lot to which a foodstuff belongs.

3.2.3 Labelling in specific cases

The nutrition and health claims regulation is based on voluntarily principle; however, claims are very favourite marketing tool of food producers⁽²⁷⁾, ⁽²⁸⁾, ⁽²⁹⁾. Claims are usually based on scientific evidence, but in Europe specifically, nutrition and health claims need to be authorised prior to their usage on the market⁽³⁰⁾.

The nutrition and health claims are regulated by the Regulation (EC) No 1924/2006 of the European Parliament and of the Council on nutrition and health claims made on foods. Regulation 1924/2006 should be read in the context of the other relevant EU legislative acts and implementing and delegated acts issued by the EU Commission. It was created a complicated network of various EU legal acts regardless on the national legal regulations of the EU member states.

The regulation 1924/2006 applies to nutrition and health claims made in commercial communications, whether in the labelling, presentation or advertising of foods to be delivered as such to the final consumer; however, this regulation applies also in respect of foods intended for supply to restaurants, hospitals, schools, canteens and similar mass caterers. A claim means any message or representation, which is not mandatory under EU law or national legislation, including pictorial, graphic or symbolic representation, in any form, which states, suggests or implies that a food has particular characteristics (Art 2 (2) of the regulation 1924/2006). There are two main categories: nutrition and health claims.

Nutrition claims

Nutrition claim is any claim which states, suggests or implies that a food has particular beneficial nutritional properties due to (a) the energy (calorific value) it provides; provides at a reduced or increased rate; or does not provide; and/or (b) the nutrients or other substances it contains; contains in reduced or increased proportions; or does not contain (Art 2(2) of the regulation 1924/2006). Nutrition claims shall only be permitted if they are listed in the Annex of the regulation 1924/2006 and are in conformity with the conditions set out in this regulation. In the original text of the regulation there were only 24 nutrition claims. Nowadays, there are other 6 more nutrition claims related to omega-3 fatty acids, unsaturated fat, and no addition of sodium/salt. Moreover, the general principles of Art 3, conditions for the use of nutrition and health claims of Art 4 and general conditions of Art 5 of the regulation 1924/2006 have to be applied. A special category of the nutrition claims is a comparative nutrition claim, which shall compare the composition of the food in question with a range of foods of the same category, which do not have a composition which allows them to bear a claim, including foods of other brands (Art 9 of the regulation 1924/2006). The comparative nutrition claims may only be made between foods of the same category, taking into consideration a range of foods of that category. Moreover, the difference in the quantity of a nutrient and/or the energy value shall be stated and the comparison shall relate to the

⁽²⁷⁾ Tarabella et al. (2021).

⁽²⁸⁾ Wansink (2003).

⁽²⁹⁾ Kozup et al. (2003).

⁽³⁰⁾ De Boer, Bast (2015).

same quantity of food⁽³¹⁾. For quinoa, there are relevant some nutrition claims because quinoa is a source of protein, fibre, some minerals (Mg, Fe, Zn, Mn, Se) and vitamins (E, B1, B2, B6). The potential nutrition claims that can be used for quinoa are as follows:

- **SOURCE OF PROTEIN** (A claim that a food is a source of protein, and any claim likely to have the same meaning for the consumer, may only be made where at least 12 % of the energy value of the food is provided by protein).
- **HIGH PROTEIN** (A claim that a food is high in protein, and any claim likely to have the same meaning for the consumer, may only be made where at least 20 % of the energy value of the food is provided by protein).
- **SOURCE OF FIBRE** (A claim that a food is a source of fibre, and any claim likely to have the same meaning for the consumer, may only be made where the product contains at least 3 g of fibre per 100 g or at least 1,5 g of fibre per 100 kcal).
- **HIGH FIBRE** (A claim that a food is high in fibre, and any claim likely to have the same meaning for the consumer, may only be made where the product contains at least 6 g of fibre per 100 g or at least 3 g of fibre per 100 kcal).
- **HIGH POLYUNSATURATED FAT** (A claim that a food is high in polyunsaturated fat, and any claim likely to have the same meaning for the consumer, may only be made where at least 45 % of the fatty acids present in the product derive from polyunsaturated fat under the condition that polyunsaturated fat provides more than 20 % of energy of the product).
- **HIGH UNSATURATED FAT** (A claim that a food is high in unsaturated fat, and any claim likely to have the same meaning for the consumer may only be made where at least 70 % of the fatty acids present in the product derive from unsaturated fat under the condition that unsaturated fat provides more than 20 % of energy of the product).
- **SOURCE OF [NAME OF VITAMIN/S] AND/OR [NAME OF MINERAL/S]** (A claim that a food is a source of vitamins and/or minerals, and any claim likely to have the same meaning for the consumer, may only be made where the product contains at least a significant amount as defined in the Annex to Directive 90/496/EEC or an amount provided for by derogations granted according to Article 6 of Regulation (EC) No 1925/2006 of the European Parliament and of the Council of 20 December 2006 on the addition of vitamins and minerals and of certain other substances to foods). However, the above mentioned directive 90/496/EEC was replaced by the regulation (EU) No 1169/2011 on the provision of food information to consumers, where Annex 13 includes the requirements necessary for the application of these nutrition claims.

Health claims

Health claim is any claim that states, suggests or implies that a relationship exists between a food category, a food or one of its constituents and health (Art 2(2) of the regulation 1924/2006). In comparison to the nutrition claims, there is no special legal definition in the regulation 1924/2006 for health claims. The health claims have to meet the general principles of Art 3, conditions for the use of nutrition and health

claims of Art 4 and general conditions of Art 5 of the regulation 1924/2006 and moreover, the special conditions of health claims stipulated in the chapter IV of this regulation. According to the article 10(1) of the regulation 1924/2006 only health claims included in the lists of authorised claims are permitted (https://ec.europa.eu/food/safety/labelling_nutrition/claims/register/public/?event=search).

There are two main categories of health claims. The first one is related to the reduction of disease risk and children's development and health and the second one is related to the function claims.

The first category of health claims is related to the health claims made on foods referring to the reduction of disease risk (article 14(1)(a) of the regulation 1924/2006) and claims referring to children's development and health (article 14(1)(b) of the regulation 1924/2006). The Commission Regulation (EC) No 983/2009 on the authorisation and refusal of authorisation of certain health claims made on food and referring to the reduction of disease risk and to children's development and health includes a list of the permitted health claims made on foods and all necessary conditions for the use of those claims as well as rejected health claims. Currently, there are 14 permitted health claims by the article 14(1)(a) and 13 permitted health claims by the Article 14 (1)(b). However, there is not consolidated text of this regulation, so the individual claims should be looked for in its separate amendments.

The second category of health claims is function claims made on foods, other than those referring to the reduction of disease risk and to children's development and health. The border line between function claims and the previous ones consists in the reduction of disease risk. The claims mentioned above consist in stating, suggesting or implying reduction of a disease.

There are also two subcategories. The first one is based on article 13(1) of the regulation 1924/2006 called function claims based on generally accepted scientific evidence. The second one is based on article 13(5) of the regulation 1924/2006 called function claims based on newly developed scientific evidence. Currently, there are 229 permitted health claims by the article 13(1) and 13 permitted health claims by the Article 13(5). The Commission received more than 2000 application of health claims according to the article 13(1) of regulation 1924/2006, and only more than 160 applications according to the article 13(5) of regulation 1924/2006⁽³²⁾. The Commission rejected most of applications and only some of them were authorised. One of the rejected claims is related also "Quinoa - Stimulation of the hair bulb, favouring the growth of the hair." It was evaluated as non-compliance with the regulation 1924/2006 because on the basis of the scientific evidence assessed. The claimed effect for this food has not been substantiated. The list of permitted health claims is issued in the Commission Regulation (EU) No 432/2012 establishing a list of permitted health claims made on foods, other than those referring to the reduction of disease risk and to children's development and health. The food producers have to use only the permitted health claims allowed by this Commission regulation. Any additions of claims to the list of health claims based on newly developed scientific evidence shall be adopted following the

⁽³¹⁾ Art 9 of the regulation 1924/2006.

⁽³²⁾ European Commission (2021).

procedure laid down in Article 18 of the regulation 1924/2006 described below.

Organic labelling

The quinoa is considered as superfood with high content of proteins, vitamins, minerals and fibre. Therefore, the requirements of organic production are usually asked by purchasers and consumers. If the quinoa is imported into the EU, the requirements of organic production according to the regulation no 2018/848 needs to be fulfilled.

The regulation (EU) 2018/848 on organic production and labelling of organic products and repealing Council Regulation (EC) No 834/2007 shall apply since 2021. The regulations define general principles of organic production (Art 5), specific principles applicable to agricultural activities (Art 6) and processing of organic food (Art 7), general production rules (Art 9), plant production rules (Art 12), production rules for processed food (Art 16) and collection, packing, transport and storage (Art 23). Terms, such as 'bio' and 'eco' and their derivatives may be used throughout the Union for the labelling and advertising of products which comply with the regulation 2018/848. On the other hand, no terms, including terms used in trademarks or company names, or practices shall be used in labelling or advertising if they are liable to mislead the consumer or user by suggesting that a product or its ingredients comply with this regulation. Where products bear terms the code number of the control authority or control body to which the operator that carried out the last production or preparation operation is subject shall also appear in the labelling. Where the organic production logo of the EU is used, an indication of the place where the agricultural raw materials of which the product is composed have been farmed shall appear in the same visual field as the logo and shall take one of the following forms, as appropriate: (a) 'EU Agriculture', where the agricultural raw material has been farmed in the Union; (b) 'non-EU Agriculture', where the agricultural raw material has been farmed in third countries; or (c) 'EU/non-EU Agriculture', where a part of the agricultural raw materials has been farmed in the Union and a part of it has been farmed in a third country. The words 'EU' or 'non-EU' shall not appear in a colour, size and style of lettering that is more prominent than the name of the product. Moreover, the producers may apply logo of the organic production according to the figures defined in the Annex V of this regulation. The organic production logo of the European Union may be used in the labelling, presentation and advertising of products which comply with this regulation. The use of the organic production logo of the European Union shall be optional for products imported from third countries.

The organic product may also be asked for other certifications as quality guarantee, such as GLOBALG.A.P. – a Trade-mark and Set of Standards for Good Agricultural Practices (https://www.globalgap.org/uk_en/), Food Safety System Certification 22000 (FSSC 22000) which offers a complete certification Scheme for the auditing and certification of Food Safety Management Systems (<https://www.fssc22000.com/scheme/>) or EU Ecolabel regulated by the regulation (EC) No 66/2010 on the EU Ecolabel. However, the organic labelling of the food is for the European consumer sufficient guarantee of quality and food safety. Therefore, there are not usually any other cer-

tificates displaying on the packages of the quinoa sold in the EU countries.

Standard for quinoa quality

In 2019, FAO has adopted the Standard for Quinoa CXS 333-2019 included in the Codex Alimentarius. The standard applies to quinoa suitable for human consumption. It does not apply to quinoa used as seeds for propagation, products derived from quinoa, e.g. flour or flakes.

The general quality factors are as follows: quinoa shall be safe and suitable for human consumption, be free from abnormal flavours and odours, and be free from living insects and mites.

The specific quality factors are:

- moisture content (maximum 13%),
- extraneous matter of organic max 0,1% (husks, stem parts, impurities of animal origin, other seed species and leaves) and inorganic origin (such as stones – max 0,1%),
- defect such as broken grains – max 3%, damaged grains – max 2,5%, germinated grains – 0,5%, coated grains – 0,3%, immature grains – 0,9%,
- protein content – minimum 10% on a dry matter basis;
- saponin content – maximum 0,12%.

The use of food additives is not permitted. The Standard regulates also the issues such as labelling, packing, hygiene and contaminants; however, the special rules of the EU mentioned above should be fulfilled if the quinoa should be market on the EU internal market.

IV. Conclusion

Quinoa is a pseudo-cereal crop that loves lower temperatures but survives also in arid areas and soils with a high salt content. Quinoa is usually called as superfood because of high level of protein, fibre, micronutrients, and amino acids and is also gluten-free. This has caused an increased interest in quinoa and its cultivation in worldwide. Nevertheless, the domestic continent, South America, especially countries such as Peru and Bolivia, is one of the world's largest producers and exporters of quinoa. The EU is one of the biggest importers of quinoa. However, there is much EU legislation that quinoa importers in the EU must comply with, mainly the legislative related to the food safety and quality, food labelling, organic labels and nutrition and health claims, food packaging and shipment, and various certifications declaring extra guarantee. It is very difficult for importers to be familiar with a number of different EU legal regulations and their amendments. If it is not possible to simplify this legislation, the importers would certainly appreciate at least a manual where all legal acts related to the import of Quinoa to the EU would be summarized.

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Contact address/ Kontaktná adresa

Department of Economics and Planning
Faculty of Economics and Planning
National Agrarian University in La Molina
Peru