Incentives and constraints for the use of organic seeds in organic farming: example of *Capsicum annuum* seeds in the Netherlands and Spain

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Date of submission: 11 December 2017

LIVESEED is funded by the European Union's Horizon 2020 under grant agreement No 727230 and by the Swiss State Secretariat for Education, Research and Innovation (SERI) under contract number 17.00090. The information provided reflects the views of the authors. The Research Executive Agency or the SERI are not responsible for any use that may be made of the information provided.

Abstract

The EU legislation on organic farming was aimed at forcing the use of organic seeds in organic production. However, there are striking differences in its implementation across the EU and the use of organic seeds is still sparse. This study examines the use of organic seeds for sweet pepper (*Capsicum annuum* L.) production in a pilot study for the Netherlands and Spain. In order to identify existing incentives and constraints, a supply chain analysis is applied, derogation requests for using non-organic seeds are analysed and interviews with stakeholders of the supply chain are conducted. Based on the findings, recommendations are given on how each stakeholder can participate in improving the implementation of the EU law, promoting the use of organic seeds.

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List of Abbreviations

Council:	Council of the EU
EC (EEC):	European Commission
EP:	European Parliament
EU:	European Union
Mapama:	Ministerio de Agricultura y Pesca, Alimentación y Medio Ambiente

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1. Introduction

1.1 History of the European Legislative Framework on the use of Organic Seeds

Since 1991, the use of organic seeds in organic farming has been legally defined in the European Union (EEC 2092/91, article 6). As the supply of organic seeds was not sufficient among crops and among countries at this stage (Gaile, 2005), paragraph 3 of the article allowed derogations, meaning that non-organic seeds could be used when organic seeds could "not be obtained by the organic production method way […] during a transitional period" (EEC 2092/91, 6.3(a)). Nevertheless, any attempts to make the use of organic seeds unexceptionally obligatory proved to be unsuccessful (Lammerts van Bueren, Struik, & Jacobsen, 2003). There is still no country in which, without any exceptions, only organic seeds are used in organic farming, even though the intention to use only organic inputs, including organic seeds, was part of the legislation from the beginning and has existed now for 26 years.

In 2007, regulation EC No 834/2007 repealed regulation EEC No 2092/91, and together with EC No 889/2008 provides the current legally valid framework on organic production. The authorisation for the use of non-organic seeds in particular cases is still included in the regulations (EC No 834/2007 article 22; EC No 889/2008 article 45). However, the enforcement of the EU law and its translation into national law across the EU member states, especially regarding seed derogation policies, differs greatly (Sanders et al., 2013). Easily granted derogation measures allow farmers to save costs in favour of the more expensive organic certified seeds, which results in unfair competition on the organic market (Gaile, 2005). Ultimately, the farmers using non-organic seeds benefit from a price advantage without having the different seed standard reflected by the label.

1.2 Decisive EU Legislation on the use of Organic Seeds

Article 45 of EC No 889/2008 is of high importance for this study because it contains a detailed description of the legal requirements in which cases organic seeds are obligatory to use. Each of the article's nine paragraphs specifies several aspects that will be analysed throughout this study; therefore, a concise overview of the article is given in the following.

The first paragraph states that non-organic seeds can be authorised for use in organic farming by the member states if organic seeds are not available. The second paragraph states that authorised non-organic seeds must be chemically untreated unless the chemicals are in accordance with the organic guidelines. Paragraph three aims to introduce an annex (EC No 889/2008, annex X) that lists all species for which sufficient quantities and varieties

are available, making their use unexceptionally obligatory. However, annex X is empty. The fourth paragraph stipulates that the competent authorities may delegate their responsibility to grant and reject derogations to other authorities for example the control bodies. The fifth paragraph lists the reasons for which a derogation is appropriate. Valid reasons are:

A) "where no variety of the species which the user wants to obtain is registered in the database referred to in Article 48";
B) "where no supplier […] is able to deliver the seeds before sowing […] in situations where the user has ordered the seeds […] in reasonable time";
C) "where the variety which the user wants to obtain is not registered in the database […] and the user is able to demonstrate that none of the registered alternatives of the same species are appropriate and that the authorisation therefore is significant for his production", or
D) "where it is justified for use in research, test in small-scale field trials or for variety conservation purposes" (Anonymous, 2008).

Paragraph six states that the authorisation shall be given before sowing. In general, the derogations are given to individuals for one season but a wide-ranging national authorisation can also be granted with sufficiently good reason, according to paragraph 7 and 8. The last paragraph adds that an updated national organic seed database is essential to authorise derogations in accordance with the current availability. Paragraphs 48 to 53 describe the national organic seed database in more detail, for example that all varieties available on the country's territory should be listed in the database (EC No 889/2008, article 48).

1.3 Status Quo

The legislation on organic farming is currently under revision. The Council of the EU (Council) has just recently stated that a provisional agreement of the Special Committee on Agriculture and the European Parliament (EP) on the new legislation has been reached and that the Council will adopt the proposal without amendments in the first reading (Council, 2017). The new regulation will come into force on January 1st, 2021 (European Commission, 2017). According to article 53 of the provisional agreement, "[t]he derogations to the use of organic plant reproductive material […] shall end 15 years after the date of application", meaning that starting in 2036, exceptions will no longer be granted (EP, 2017). Moreover, the EU-funded LIVESEED project, which was only introduced this year (2017), is aimed at "boosting organic seed […] efforts and increasing the availability of cultivars" (EIP-AGRI, 2017). Both examples

indicate that an EU-wide transformation regarding organic seed use requirements is under way. Considering this transformation, it is of special interest to examine existing differences in the use of organic seeds among the EU member states.

1.4 Conventional, Conventional-untreated and Organic Seeds

In conventional agriculture, the crops as well as the seeds are often treated with pesticides and other synthetic substances. Conventional-untreated seeds originate from crops that have been grown conventionally but the seeds themselves are not treated with any chemical-synthetic substances, or only with substances that are in accordance with the regulations on organic farming (e.g. EC No 889/2008, annex II). These seeds can be authorised for use in organic farming, for example if organic seeds are not available. Organic seeds are obtained from plants that were grown organically, meaning neither the mother plants nor the seeds were treated with synthetic substances that are not permitted in organic farming (Lammerts van Bueren et al. 2003; EC No 889/2008). Admittedly, a clear definition of the term organic seeds and of eligible breeding practices has been missing in the legislation all along. The new legislation, however, targets this issue. Article 3 (19) of the provisional agreement, for instance, contains many definitions, clarifying terms such as "organic variety suitable for organic production". Moreover, in annex II, 1.8 et seqq. the production process of plant reproductive material complying with the organic standard is elucidated (EP, 2017).

1.5 The Pilot Study

The Netherlands and Spain are the leading producers of organic fresh vegetables in the EU. According to the Eurostat statistics of 2016, the Netherlands are ranked number one, producing around 351 400 t of fresh vegetables, and Spain is second ranked, producing around 286 100 t (Eurostat, 2017). Due to the significance of these two countries' fresh organic vegetable supply on the EU market, they have been chosen in order to compare the use of organic seeds in the national organic vegetable production. To limit the scope of the study, (sweet) peppers (*Capsicum annuum* L.*)* will serve as case crop.

1.6 The Objective

The guiding research question of this study is: What are the incentives and constraints for using organic pepper seeds in organic farming in the Netherlands and Spain? An answer to this question will help to give policy recommendations on the constraints that must be addressed and incentives that must be strengthened in order to promote the use of organic seeds in organic agriculture.

2. Materials and Methods

Initially, the relevant actors of the organic pepper supply chain for the Dutch market were identified through literature review and expert inquiry. The stakeholders were illustrated using a flow chart. Based on this illustration, the stakeholders' tasks within the organic pepper production and their responsibility to actively engage in the promotion of organic seed use were outlined in the course of this study.

Secondly, the granted derogation requests to use non-organic seeds in organic agriculture were analysed to evaluate the national use of organic pepper seeds and thereby the strength of the national legislation and implementation of the law. The results of the data analysis were set in the context of the national organic pepper production, for example total area designated for organic pepper production to incorporate the national circumstances.

Thirdly, an exploratory study was conducted in order to assess the unresearched field of organic seed use in organic pepper production. So far, related research has primarily focused on the use of organic seeds in general, rarely on the use of a certain crop and even more rarely on peppers, since tomatoes are the more favoured case greenhouse crop. Semi-structured personal interviews asking primarily open questions were applied to qualitatively assess the differences in the pepper production frameworks of the two pilot countries and to determine factors that influence the decision-making of using or not using organic seeds. The explorative and qualitative approach was most advantageous for the purpose of this study as it ensures impartial research, resulting in a detailed understanding of the issue in its entirety and of the personal experiences and perceptions of the stakeholders (Mayring, 2010). Most of the interviews were recorded and notes were taken simultaneously. Sometimes it was not possible to record the interview due to technical difficulties or interviewees did not feel comfortable being recorded. In these cases, only notes were taken. Additionally, questionnaires were sent via e-mail whenever an interview could not be conducted in person due to language barriers or difficulties with regard to the schedule. The recordings and notes of the interviews were transcribed and compiled. The interviewees' key points were highlighted in the transcripts and afterwards summarized, facilitating the concentration on the aspects relevant for this study (Saunders et al. 2009). A summarising content analysis was used as method to extract the relevant information from the transcript (Bortz & Döring, 2006; Mayring, 2010). The information taken from the interviews was checked against its credibility, accuracy and authenticity with other interviewees and literature (Bowen, 2009).

3. Results

3.1 The Supply Chain

Figure 1 illustrates the supply chain and the key actors in organic pepper production schematically (adapted from Lammerts van Bueren, 2002). In a simplified view, one could say that the seed companies (= breeding and propagation of seeds), the organic seed database (= listing the seed suppliers), the plant raisers (= transplant growers) and farmers determine the supply of peppers through their production. Nevertheless, they depend on the respective national framework and legislation, including the influence of the competent authorities and control bodies. The distributors (= wholesalers, importers and exporters) are the link between supply and demand, connecting both sides. On the demand side, there are the retailers (= supermarkets and shops) and the consumers, who significantly affect the supply of pepper through their requirements and buying behaviour. The distributors and retailers must also comply with the legislative requirements on organic production and labelling in order to complete the certification process.

Figure 1: Relevant actors in the supply chain for organic peppers in a very simplified flowchart. The flow of commodities, relationships and communication of the stakeholders point in reality in many more directions.

The illustrated supply chain is reduced to the essential, since including other ties and dependencies would make it too complex. For instance, farmers may be a part of the seed production when they are contractors, propagating seed on behalf of the seed companies (Lammerts van Bueren, 2002). The farmers may have direct contracts with retailers, so that the distributors could be left out in the chain. Retailers may try to influence the breeding traits of the seed companies according to their taste expectations. Furthermore, the seed companies are not restricted to the national market, they may also sell organic seeds to other countries. The same is true for the distributors of organic products who may buy the products in one or more countries and sell it to other countries.

3.2 Derogation Requests: The use of Non-Organic Seeds in Organic Agriculture

Based on the granted derogation requests in the Netherlands and Spain, the amounts of non-organic seeds that have been used in organic farming and the varieties that were demanded for the production but were not available in organic quality can be estimated.

The derogation requests for using untreated-conventional pepper seeds in organic agriculture were analysed for the Netherlands and Spain for a three-year period, for the newest data available (2013-2015). There was no data available prior to 2013 for the Netherlands. Skal was asked to send the granted derogation requests per e-mail, since the online published data on the Dutch organic seed database did not list the reasons why farmers asked for the exemption. The information for Spain was provided by the Ministerio de Agricultura y Pesca, Alimentación y Medio Ambiente (Mapama) and was publicly accessible online. The unit in the Dutch records was consistently piece number, whereas in Spain two units, pieces and kg, were used. In order to normalise the unit of the data sets, kg was transformed into pieces using the factor 140 000[1].

3.2.1 Derogation Requests in the Netherlands

For the latest year (2015), there were 90 requests for about 62 different pepper varieties, of which 11 varieties[2] were of special importance since they represented 94% of the total seeds that were granted for usage in organic agriculture. About 2 million seeds in total were authorised. 35 requests (39% of total requests) stated reason B (see listing in section 1.2) as the explanation why they applied for the derogation, followed by reason D: 29 requests (32%), C: 25 requests (28%) and A: 1 request (1%). However, a not negligible quantity of seeds was used for research purposes (reason D) every year. Seeds used for this purpose increase the total number of authorised non-organic seeds although they are not target of this study.

The authorised derogation requests for 2013, 2014 and 2015 are summarized in Table 1. The years 2013 and 2014 will not be explained any further. The procedure to extract information from the table for those years is similar to the example shown above for the year 2015.

Table 1: Summarized granted derogation requests for using non-organic pepper seeds in organic pepper production for the Netherlands in 2013, 2014 and 2015.

The Netherlands	authorised (in total):			reason indicated on the request:			
	seeds	varieties	requests	reason A	reason B	reason C	reason D
2013	1 441 080	~27	44	0 (0%)	22 (50%)	16 (36%)	6 (14%)
2014	946 270	~37	39	0 (0%)	27 (69%)	4 (10%)	8 (21%)
2015	1 791 932	~62	90	1 (1%)	35 (39%)	25 (28%)	29 (32%)

The total amount of varieties is an approximate value due to spelling mistakes or ambiguities in the derogation requests. Only one reason could be selected per derogation request. The values in brackets represent the percentage share of the reason indicated per year. The data was provided by Skal Biocontrole and sent per e-mail.

[1] According to Enza Zaden DE 2017, 1 g of pepper seeds corresponds to 140 pieces on average.
[2] Allrounder, Expensive, Foundation, Inzell, Palermo, Redline, Redwing, Snooker, Sven, Volante and WT 1225

3.2.2 Derogation Requests in Spain

In Spain, there were 3764 requests for about 268 varieties in 2015, adding up to approximately 30 million seeds that were authorised for use in organic farming. The varieties used are more heterogeneous compared to the Netherlands, so that 24 varieties[3] represent only 72% of the total seeds authorised. 3428 (91%) of the requests used reason C as the explanation for asking for untreated conventional seeds, followed by reason D with 328 (9%). Reasons A and B were stated in negligible numbers (0%). Undisputedly, reason C was most commonly used to ask for a derogation (see Table 2).

Table 2: Summarized granted derogation requests for using non-organic pepper seeds in organic pepper production for Spain in 2013, 2014 and 2015.

Spain	authorised (in total):			reason indicated on the request:			
	seeds	varieties	requests	reason A	reason B	reason C	reason D
2013	14 317 718	~202	652	18 (3%)	2 (0%)	621 (95%)	11 (2%)
2014	16 464 599	~274	1637	13 (1%)	3 (0%)	1589 (97%)	32 (2%)
2015	29 526 397	~268	3764	0 (0%)	8 (0%)	3428 (91%)	328 (9%)

The total amount of varieties is an approximate value due to spelling mistakes or ambiguities in the derogation requests. Only one reason could be selected per derogation request. The values in brackets represent the percentage share of the reason indicated per year. Units were standardised: 1g = 140 pieces. The data was provided by the Ministerio de Agricultura y Pesca, Alimentación y Medio Ambiente and online accessible.

3.2.3 Derogation Requests: Summary

The area delegated for organic pepper production was not steady in both countries from 2013 to 2015. In the Netherlands, the area used for organic pepper farming decreased from 33 ha in 2013 to 27 ha in 2014 and increased to 33 ha again in 2015 (CBS, 2017a). This development is reflected in the amount of authorised seeds. Furthermore, while analysing the derogation requests, an increasing popularity of rootstock varieties was detected, especially in 2015. As a consequence of the trend of using grafted plants, two seeds per plant are needed, which increases the total amount of seeds that needs to be authorised. In Spain, the area used for organic pepper farming increased steadily from 262 ha in 2013 to 303 ha in 2014 and 423 ha in 2015, which is also reflected in the amount of authorised seeds. Hence, the doubling of the derogation requests from 2013 to 2015 coincides with a doubling of the cultivated area. Only a few derogation requests for rootstocks were found in 2013 and 2014. In 2015, 700 000 seeds for the rootstock variety Arnold were requested. However, as Arnold is a rootstock for tomato,

[3] Unknown (#), Angus, Arnold, Bily, Carson, Galena, Jaranda, Maestral, Melchor, Muriel, Najerano, Nirvin, Nora, Olimpiakos, Palermo, Prometeo, Sinfony, Tallante, Tomelloso, Tramontana, Traviatta, Utiel, Valero and Velez

it is not utilisable for pepper grafting[1] (reference see Table 6 appendix B). The information was excluded from further analysis.

3.3 The National Production Conditions

The production conditions for organic pepper differ in the Netherlands and Spain. However, while developing the study, it emerged that there is not much knowledge about the actual differences from people outside the sector. Yet, an understanding of this circumstance is necessary to be able to relate to incentives and constraints stated by people within the sector; hence, the following sections will provide insights.

3.3.1 Pepper Production in the Netherlands

The centre of pepper production in the Netherlands is South Holland. Due to the temperate oceanic climate (Peel, Finlayson, & McMahon, 2007), the peppers are solely grown in heated greenhouses (CBS, 2017b). According to the CBS statistics of 2016, 32 farms cultivated organic peppers on 33 ha, producing approximately 6 650 t of organic peppers (CBS, 2017a; own estimations, see Table 3 appendix A). The Dutch have refined the pepper production over the years, ultimately attaining yields of approximately 20 kg m^{-2} yr^{-1} in organic farming[2]. They have developed advanced technologies, allowing them to use the limited area for cultivation as effectively as possible: for example, well-equipped glass greenhouses; special wires, allowing them to grow plants up to 4 m; and carbon dioxide enrichment appliances for enhanced plant growth[3].

The annual production cycle for organic peppers in the Netherlands is as follows: In October, the farmers must decide on which pepper variety to grow in order to meet the deadline of the organic seed database on November 1st; however, the plant raisers order the seeds on behalf of the farmers. Subsequently, the seeds are delivered to the plant nursery in November and the seedlings are raised until January[4]. Since the use of rootstocks is popular in the Netherlands, the plant raisers graft the plants[5]. After that, the young plants are delivered to the greenhouse farmers in January. Peppers can then be harvested from April to November[6]. The farmers stop producing peppers in winter because the sunlight is insufficient and using artificial lighting is not permitted in organic farming[7]. The production costs for Dutch pepper farmers are relatively high compared to other EU countries due to more expensive raw materials, including fuel for heating the greenhouse, and manpower (Cantliffe & Vansickle, 2001). Consequently, the producer price for red bell pepper for Dutch farmers was €5.18/kg in 2015 (Schaack &

Rampold, 2016). About 80% of the peppers grown in the Netherlands are for export (Sukkel & Hommes, 2009).

3.3.2 Pepper Production in Spain

The total organic pepper production encompassed about 18 780 t and 423 ha in Spain in 2015 (Mapama 2016). The Comarca's Almería (Andalusia) and Campo de Cartagena (Murcia), located in the southeast, are the hubs of Spanish organic pepper production[8]. The largest portion is produced in Murcia, which always constituted more than 50% of the national yield, followed by Andalusia with about 20% (own calculations, see Table 4 appendix A). The climate across Spain is highly diverse, even across the southern parts. In Murcia, the climate can be classified as a cold semi-arid climate whereas in Andalusia, the climate can be classified as a cold semi-arid and cold desert climate (Peel et al., 2007). Due to the suitable climate, outdoor cultivation is possible. However, farmers struggle with water scarcity in these arid regions (Chapagain & Orr, 2009). To prevent the pepper plants from overheating in summer, white or non-transparent foil is used as protective cover for the outdoor cultivation or as lining in the greenhouses (Reche, 2010; Rodriguez, 2017). The greenhouses in Spain are not comparable with Dutch greenhouses. They are simple constructions with plastic cover[9], also called low-cost greenhouses (Jovicich et al., 2005). The pepper yield is heavily dependent on the region and the management practice. Hence, yields can vary between 1 kg m^{-2} yr^{-1} and 9 kg m^{-2} yr^{-1}. For Andalusia, the productivity was approximately 5.36 kg m^{-2} yr^{-1}; for Murcia, approximately 6.09 kg m^{-2} yr^{-1} (own calculations, see Table 5 appendix A). However, Spain ranks second worldwide in terms of productivity after the Netherlands[10]. Spanish farmers are able to produce the peppers at a lower price because the input and production costs are lower compared to the Netherlands (Cantliffe & Vansickle, 2001). For Spanish farmers, the producer price for red bell pepper was €4.06/kg in 2015 (Schaack & Rampold, 2016).

It is important to differentiate between organic pepper production for the local and export market in Spain, because a local organic market hardly exists[11]. Approximately 98% of the organic peppers are produced for the export market. These peppers are mainly grown in greenhouses[12]. The annual greenhouse production cycle depends on the region, but in general, the production period is from winter to spring. For instance, in Andalusia, the transplants are delivered to the farmers in August and peppers are harvested from late October to February, whereas in Murcia, the transplants are delivered to the farmer in December and peppers are harvested from March to July, sometimes until August[13]. The outdoor cultivation of organic peppers, using mainly traditional varieties, starts in spring and ends in summer. However,

peppers produced outdoor represent only a small share of the total production and are primarily sold on the local market. The term local market regarding organic products refers to street markets or small shops, not to supermarkets[14]. This study will focus on the greenhouse production in Andalusia and Murcia in the following chapters, since these are the locations determining the organic pepper supply, especially in winter.

3.4 Analysis of the Supply Chain

3.4.1 National Frameworks

According to article 27 (EC No 834/2007), each EU member state designates at least one competent authority which is in charge of drawing up the national legal framework. For the Netherlands, there is only one national competent authority, the Dutch Ministry of Economic Affairs[15]. For Spain, there are 17 individual competent authorities, one for each Autonomous Community (Mapama, 2017b). The competent authorities are allowed to delegate control tasks to control bodies. In the Netherlands, this task is solely accomplished by Skal Biocontrole[16], whereas in Spain there are 45 delegated control bodies (Mapama, 2017a).

In the Netherlands, it is obligatory to use organic seeds for organic pepper production, because peppers are listed as a category 1 crop[4] on the national annex (ECO-PB, 2013). An expert group consisting of the Inspection Service for Horticulture, researchers, farmers, plant raisers and the seed companies was introduced and is charged with advising the competent authority to add and remove varieties to/from the national annex. The national legislation is flexible, meaning that it adapts to recent developments of the sector[17]. For instance, if a new variety with new traits enters the market, non-organic seeds of this variety can be used for one year. After that, organic seeds of the variety should be provided. Furthermore, the national legislation is flexible regarding aggravating circumstances, meaning that if a disease overcomes a crop's resistance, the crop can temporarily be removed from the annex and added again when the problem is solved (ECO-PB, 2013). It should be considered that up to 10% of the cultivated area can be used for testing varieties in non-organic quality each year[18].

In Spain, there is neither a delegated expert group nor are any crops or varieties labelled as category 1. However, there is, for instance, an attempt by the ministry of agriculture of Andalusia to promote the use of organic seeds in their region, as mentioned in their development plan (Junta de Andalucía, 2016). For Murcia, no local legislation or development plan targeting

[4] For crops/varieties classified as category 1, the use of organic propagation material is obligatory, for category 2, organic propagation material is obligatory if the variety is available and for category 3, organic propagation material is not obligatory (Biodatabase, 2017a).

the promotion of organic seed usage was found. Furthermore, the divided competencies between the many competent authorities and control bodies hamper the harmonisation of the EU regulation across the country (ECO-PB, 2013). One interviewee described a competitive situation among certifiers that was exploited by farmers. The varying certification guidelines were compared by farmers and they switched to another certifier if the guidelines were less strict or more suitable for their purpose[19].

3.4.2 Seed Companies

There are only a few companies breeding and propagating seeds in organic quality for agriculture worldwide. The leading industry is located in the Netherlands. The dominant seed companies that produce organic pepper hybrid varieties for the commercial market supply the conventional and the organic market.

The interviewees of seed companies stated that the propagation of organic seeds is a higher risk and requires more effort. Usually the seed companies propagate in two separate locations to avoid a complete failure if pests or diseases spread[20]. Additionally, it is not easy to find sufficient organic propagation ground and contractors for the propagation with adequate expertise[21]. On top of this, the organic seed quality is of special importance because no chemical-synthetic inputs can be used to make up for bad quality (Lammerts van Bueren et al., 2003). The extra effort and costs that are associated with the organic production process are reflected in the price of organic seeds, which is higher compared to conventional seeds. Due to the risk of failures and limited propagation area, a transformation of the organic seed supply must be well planned. The seed companies need time to produce enough organic seeds to cover the demand while delivering a satisfactory quality[22].

For some leek and carrot varieties it is known that seeds cannot be produced in organic quality due to technical difficulties (Deleuran & Boelt, 2010; Deleuran, 2010; Lammerts van Bueren et al., 2003). No difficulties or technical limitations are known for the breeding of pepper varieties[23].

3.4.3 Organic Seed Database

This section will focus on the organic seeds registered in the national databases of Spain[5] and the Netherlands[6]. According to article 49 and 50 (EC 889/2008), only seeds that are registered in the national database should be considered as available for use in organic agriculture.

[5] www.mapama.gob.es/app/EcoSem/consultasemillas.aspx
[6] www.biodatabase.nl

Moreover, each country must list all seeds that are available in organic quality on their territory in the national seed database (article 48, EC 889/2008). Traders as well as producers can ask for permission to sell and register varieties on the online platform. The decisive databases were examined to assess the offered pepper varieties and availability of organic seeds in each country.

The Netherlands established an independent website for accessing the national organic seed database, which is operated by the Netherlands' Inspection Service for Horticulture (Biodatabase, 2017b; Naktuinbouw, 2017). Spain's organic seed database is managed by the National Department of the Environment and is accessible through the government's website. At the present time (15 September, 2017), there are five companies offering seeds in organic quality[7] for 37 varieties[8] on the Dutch database. In Spain, organic seeds for peppers are also offered by five companies[9] for 37 varieties[10] .

3.4.4 Plant Raisers

In the Netherlands, the use of rootstocks is quite common. About 95% of the young pepper plants were grafted in 2017[5]. In Spain, the information about the use of rootstocks is vague but it is assumed that it is unusual to use grafted plants in Murcia, whereas it is quite common in Andalusia[24]. Rootstocks promote a good root system, resistance against soil nematodes, generative or vegetative growth and can extend the production period[25]. However, grafted plants are more expensive and may not pay off in short production cycles[26]. The germination rate of pepper seeds (> 80%) and success rate for grafting (> 90%) are similar in both countries, but they are usually higher (almost 100%) due to the self-imposed standards of the seed companies and well experienced plant raisers[27].

3.4.5 Farmers

The growing conditions and attainable yields vary strongly between the two countries, as explained in section 3.3.1 and 3.3.2. The greenhouses and management practices are very similar across the Netherlands. Therefore, the high yields are attained at a relatively uniform

[7] Bingenheimer Saatgut AG; De Bolster B.V.; Hild Samen GmbH; Rijk Zwaan Zaadteelt en Zaadhandel B.V. and Vitalis Biologische Zaden B.V.

[8] Artega, Arwen, Cooper, Davos, E 499526, Elsa, Ferenc Tender, Ferrari, Fiesta, Flynn, Ilyn, Kaite, Kyra, Lilo Maldonado, Maranello, Marletta, Nagano, Olly, Oranos, Orbit, Palladio, Pantos, Pusztagold, Radja, Redwing, Rojito, Sapporo, Scarface, Spider, Sprinter, Sweet Dreams, T, Xanthi, Xaro, Yolo Wonder and Zazu

[9] Gaiadea; Semillas Batlle, S.A.; Semillas Clemente, S.A.; Rocalba, S.A. and Vitalis Biologische Zaden Bv

[10] Artega, Atalante, Belcanto, Catriona, Cayenne long slim, Coperi, Diomede, Dulce Italiano, E 499531, E499526 Ferrari, Grande de plaza, Guindilla pequeña amarilla, Imperio, Jersey, Largo de Reus, Maranello, Marletta, Milena Olympus, Oranos, Padrón, Pico, Piquillo, Rojito, Rubiero, Spider, Sprinter, Tamarin, Teseo, Triple 4, Veyron, Viper, Vizcaino, Xanthi, Yellow California Wonder and Zagato

level and about the same demands on varieties and traits are made by farmers[28]. In Spain, not only the climate is heterogeneous, but also the growing conditions, growing period and the management practices, both in greenhouses and outdoor. Hence, the demands on varieties and traits are diverse[29]. In both countries, hybrids are used rather than true-breeding (open-pollinated) varieties to supply the commercial market because the attained yield is higher and the fruits look more uniform. When the interviewees were asked which stakeholder determines which variety is grown, they unanimously said that the retailers are the major decision makers nowadays. They have clear demands on quality (e.g. size, colour, taste, shelf life) and quantity. The farmers' task is to find a variety that meets the retailers' demand and their production conditions (e.g. resistances). For some unique varieties such as sweet pointed (conical) peppers, the market even asks for a specific variety, so that the farmer is not included in the variety selection at all[30]. If the market demands a variety that requires a derogation request, the Spanish farmers ask their responsible certification bodies for authorisation[31]. The main reason for Spanish farmers asking for a derogation was that the chosen variety was not listed on the national database (Table 2, section 3.2.2). In the Netherlands, it is not the farmer who asks for a derogation, it is the plant raiser who does it on behalf of the farmer[32]. The two main reasons for asking for a derogation in the Netherlands were that the chosen variety was not listed on the national database and that the seed producers could not deliver the seeds before sowing, although the farmers asked in advance (see Table 1, section 3.2.1). Moreover, the higher price of organic seeds compared to conventional seeds is mentioned as a main constraint of organic farmers in the literature (Gaile, 2005).

3.4.6 Distributors

The distributors are the link between farmers and retailers. They calculate the expected demand with the supermarkets and the capacities with the farmers and try to match both[33]. Based on that, the distributors tell the farmers what to grow[30]. The interviewed distributors stated that there had been two attempts to promote the use of organic seeds for some crops, but neither was successful. The first attempt failed because the supermarkets did not support the case and, hence, were not willing to pay the surcharge demanded by the farmers. In the second case, the attempt was made by a supermarket on a small scale, but it was unsuccessful because the customers could not be convinced of the product[34].

3.4.7 Retailers

The Dutch retailers depend on the Spanish pepper production to complete a year-round supply of organic peppers[35]. In Spain, the organic market is very small and the production is geared

to the export market[36]. Therefore, the Spanish retailers will not be considered any further. The interviewees mentioned that many supermarkets in the EU, especially the big chains, have stricter quality requirements on products than defined by the EU or national guidelines. These so-called secondary standards also apply to organic products[37]. The secondary standards were especially tightened and revised after a Greenpeace campaign about pesticide residues on fruits and vegetables in the late 2000s (Huxdorf, 2007). The campaign denounced the supermarket chains resulting in a more cautious attitude of the retailers towards the whole production process (Hildebrandt et al., 2010; Huxdorf, 2007). Hence, certificates assuring the quality of the products became more important[38].

3.4.8 Consumers

The interviewees stated that the customers are not aware that non-organic seeds can be used to produce organic peppers[38].

4. Discussion

The share of non-organic seeds used in organic pepper farming in the Netherlands is lower than in Spain; hence, it is of special interest to elaborate on the existing incentives in the Netherlands and the existing constraints in Spain. However, there are constraints for Dutch stakeholders that must also be addressed to further promote the use of organic seeds. Furthermore, the few but existing incentives achieved by Spanish stakeholders should not be underestimated. A holistic approach is recommended involving all stakeholders of the supply chain.

4.1 National Frameworks

An incentive applied in the Netherlands is the obligation to use organic seeds for red blocky pepper because this variety is labelled as a category 1 crop. The expert group was crucial in taking the step to add the variety to the national annex. Their competency was necessary to establish a consensual framework for all affected stakeholders. To secure the effectiveness of the law, the certifiers are enforcing the implementation of the rule decisively across the country. To satisfy the farmers, the flexibility rule was introduced, according to which at least two seed companies must provide seeds of a category 1 crop to avoid shortages and a dependency on one seed producer[17]. To get the seed companies on board, they got the demand guaranteed and in return promised to provide more varieties and seeds for red blocky pepper. Moreover, the stakeholders throughout the supply chain were encouraged to communicate openly. At least once a year, representatives are invited to the expert group meeting.

In Spain, a basic constraint is that there is no expert group that could take over responsibility for the promotion of organic seeds, and that there is no incentive through national obligation. One interviewee referred to the EU legislation as "lowest common denominator" and that it is weak/toothless regarding the obligation to use organic seeds[39]. For that reason, national effort is inevitable to enforce what was intended by the EU legislation. However, the different production conditions, due to the climate and the generous size of the organic pepper sector in terms of surface area, require a wide-ranging knowledge. Many factors need to be considered when deciding if sufficient varieties and seeds are provided. These circumstances make it considerably more difficult to find common ground in Spain compared to the Netherlands. Furthermore, the attempt of regional governments to promote the use of organic seeds could turn out negatively if farmers feel unjustly treated compared to other Spanish colleagues. In the light of the existing competition among the certification bodies, individual endeavours might aggravate the competitive situation. One well-coordinated national approach headed by a competent expert group affecting all stakeholders the same way could be more promising.

4.2 Derogation Requests

In the Netherlands, mostly yellow, orange or pointed pepper varieties are listed on the authorised requests. These varieties are category 2 crops, meaning that exemptions are granted more easily because the expert group concluded that the offered varieties and the total supply in organic quality is not sufficient, making it difficult for farmers to find organic seeds. Mostly, the farmers stated reasons B or C when asking for a derogation in these cases. An incentive to further promote the use of organic seeds of the category 2 crops is to approach the seed companies to target the production of those varieties, so that ultimately the expert group can also classify them as a category 1 crop. To reduce difficulties in delivering the seeds in time (reason B) the expected demand should be calculated as soon as possible. Since the seeds must be ordered by November 1st and are delivered in the same month, there is no time for preparation for the seed companies. An incentive to eliminate reason B on the derogation report is to recognise market trends as early as possible to better coordinate market demand and breeding aims. The authorisation of red blocky pepper varieties is only possible if reason D is applicable or in exceptional cases with sufficient reason. Since the requests primarily indicated reason D for using non-organic seeds for red blocky pepper varieties and only a few requests were made in general, the supply seems to be sufficient for the category 1 variety.

In Spain, due to the general authorisation of derogations, no legislative incentive exists to use organic seeds. Farmers can state any reason to get the derogation granted; however, reason C

was stated most often, perhaps because reason C is the most flexible and universally applicable reason. There is always a justification, for example the market demand, to use a certain variety that is not listed on the database. Furthermore, it is still uncertain if there is an overuse of derogation requests. During the study, the amount of authorised seeds was extrapolated to the area designated for organic pepper farming and the result was that altogether more non-organic seeds were authorised than could be cultivated. However, this was only a rough estimation because some information about the Spanish organic pepper production was lacking (e.g. use of rootstocks, plants cultivated per m², etc.). If there is an overuse of derogation requests, the current situation is not reflected realistically. This must be considered for future measures.

4.3 Seed Companies

The dominant organic seed companies, mainly located in the Netherlands, rather focus on the conventional market in terms of breeding since the market potential of the conventional seeds is higher. The seed companies usually select varieties from the conventional assortment that have traits which could be suitable for organic production. Subsequently, these varieties are propagated under organic conditions to attain organic seeds. Therefore, most varieties that are offered in organic quality are also available in conventional quality. There is no added value for using organic varieties. Seed companies should develop unique varieties purposefully targeting the organic market. This incentive might be more applicable for seed companies that are only engaged in the organic market, although their market potential is very limited. The dominating seed companies will probably not withhold any varieties from their main sales market. Generally, more seed companies are desirable to enter the organic market. The established companies already specialise in certain crops and are therefore not able to cover the whole market demand[40]. Furthermore, enhanced competition between the seed companies will result in a larger assortment of organic varieties and prevent the concentration and monopoly position of the seed producers in the organic sector as is already looming in the conventional sector. However, the seed companies need incentives to enter the market or increase their organic division, for example through increasing demand and a reliable market, to overcome the obstacles associated with organic seed production (high risk, high costs, etc.). One interviewee stated that it is already challenging to keep up with the increasing demand on organic seeds[41]. Now, the reliability of the market must also prove to be true.

In Spain, there are no relevant seed companies producing organic hybrid varieties for the professional pepper production. Nevertheless, associations like Red de Semillas producing

open-pollinated, traditional varieties in organic quality are gaining more popularity on the local organic market[42].

4.4 Organic Seed Database

Both databases can be described as user-friendly and well developed. There are no constraints in using the databases. However, there were uncertainties about some varieties[11] listed on the Spanish organic seed database, because no further information could be found on the provider's website for example. Therefore, the database appeared to be outdated. An up-to-date website is essential to provide the user with the latest varieties available and to avoid misinformation. Given the climatic heterogeneity of Spain and, consequently, the different production conditions, it was remarkable that there were not more varieties offered than in the Netherlands. This means that for the greenhouse farmers in Murcia, the greenhouse farmers in Andalusia and the outdoor cultivators, only a part of the on the database listed varieties is of interest. The few suitable varieties offered could be a constraint for Spanish farmers to use organic seeds. However, one interviewee of a seed company stated that there was no demand for organic seeds in Spain so they did not extend the offer[43]. This leads to the question as to whether the farmers were not interested in buying organic seeds in the past and whether they are now, or whether the seed companies provided undesired varieties. It remains unanswered. Furthermore, an incentive to use the database and to make sure that for each climate and each production condition organic seeds are available, a categorisation of the varieties according to these circumstances could be beneficial[44]. Such a categorisation is not needed in the Netherlands.

4.5 Plant Raisers

In the Netherlands, grafted plants are gaining popularity due to the increasing abundancy of soil nematodes in the greenhouses and due to soil exhaustion caused by the long production cycles without real crop rotation (rotation with cucumber and tomato). Hence, rootstocks are necessary to ensure the consistently high yields. The deteriorating soil health is a constraint to using organic seeds, since rootstocks are not yet available in organic quality and must be bought in addition. The use of rootstocks seems to be less popular in Spain; however, if the cultivated area is used more intensively in future, there will also be an increasing demand for rootstocks in Spain. An incentive not to use non-organic seeds is to maintain the soil quality.

[11] Ruberio, Veyron, Viper and Zagato

4.6 Farmers

Farmers appreciate new varieties on the market, especially varieties with stronger resistances, higher yields or lower inputs. A greater selection in general is desired. However, the selection of organic seed varieties is minor compared to conventional[45]. Especially in Spain, where a wide range of varieties is needed, the offered varieties in organic quality do not cover the diverse demands, which is a crucial constraint. Furthermore, it should be avoided that only the farmers are blamed for not using organic seeds. The market demand and supply of organic seeds must also be considered[46].

The higher price for organic seeds was mentioned as a constraint for farmers in the literature. However, the price of the seeds is insignificant compared to the costs of labour and durables[12] (Thommen et al., 2007). Moreover, one seed can generate many kilos of yield. Regarding the different productivity in organic pepper production, the price issue might be slightly more relevant to Spanish farmers due to the smaller yields per m². Nevertheless, compared to other vegetables like onions and carrots, the price issue for organic pepper seeds is of minor importance (Thommen et al., 2007).

4.7 Distributors

The role of the distributors can be utilised to encourage farmers and retailers to use organic seeds. As an incentive, distributors could be asked to sensitise both sides concerning the issue and promote open communication, so that the stakeholders realise that the price issue, for example, is not as relevant for peppers as they thought. Most distributors are active in the trade of organic products in several EU countries. Hence, they must also be considered when aiming to harmonise the implementation of the EU law.

4.8 Retailers

It depends on the time of the year whether the organic peppers sold in the supermarkets are grown from organic seeds (Dutch supply in summer, Spanish supply in winter). This means that not the same organic quality is delivered all year. Although quality assurance and certification is important to the supermarkets, they do not enforce the same standards on organic products in their assortment. They could apply a secondary standard on using organic seeds as an incentive to ensure the quality of their products. Some initiatives are already working on raising awareness that non-organic seeds used in organic agriculture are a possibility to

[12] According to Lammerts van Bueren about tomatoes. The statement can be applied to peppers because the production conditions are comparable.

contaminate the end-product with pesticides so that residues could be found[47]. Hence, this incentive could be interesting for supermarkets to avoid bad publicity if residues are found and open up a unique selling point.

4.9 Consumers

With a lack of awareness of the problem, no demand for peppers grown from organic seeds can be created. Since it is not apparent from the label on the product whether organic or non-organic seeds have been used, the question does not occur. The consumers could be mobilised to demand the use of organic seeds, which has proved to be an effective instrument in many cases, for example the weakening demand on caged egg production or vegetables treated with pesticides. However, raising awareness could cause mistrust in terms of the authenticity of organic products. Furthermore, people want to see fast changes, which is difficult to achieve in the transformation of the organic seed sector. Hence, this incentive should be considered as a last-chance instrument.

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Acknowledgements

FiBL Deutschland, Freya Schäfer and Maaike Raaijmakers are gratefully acknowledged.
I also thank the interviewees for providing information and supporting my research.

Appendices

Appendix A: Processed Data

Table 3: Estimation of the total organic pepper production in the Netherlands in 2016.

Registered cultivated area qualified for organic pepper farming (m²)*	332 470
Organic pepper production on average (kg m^{-2})**	20
Estimated total organic pepper production (t)	**6 649**

*According to (CBS, 2017a)
**According to Farmer. Under favourable conditions, the productivity per m² is higher: up to 23 kg m^{-2} yr^{-1}. Under unfavourable conditions, the productivity per m² is lower: as little as 16 kg m^{-2} yr^{-1}.

Table 4: Calculation of the contribution of Andalusia and Murcia on the national organic pepper production. For the remaining 17 autonomous communities of Spain, the share has been calculated too, to find out if the organic pepper production was of significance. However, the production in Andalusia and Murcia was the largest.

	National 2013	**National 2014**	**National 2015**
Estimated organic production (t)*	11 889	16 866	18 779
	Andalusia 2013	**Andalusia 2014**	**Andalusia 2015**
Estimated organic production (t)*	2 320	2 463	3 629
Percentage of national production	**20%**	**15%**	**19%**
	Murcia 2013	**Murcia 2014**	**Murcia 2015**
Estimated organic production (t)*	7 880	12 715	10 600
Percentage of national production	**66%**	**75%**	**56%**

*According to (Mapama Estadísticas, 2014, 2015, 2016)

Table 5: Estimation of the productivity (kg m^{-2}) per year of organic pepper production in Andalusia and Murcia in 2013, 2014 and 2015.

	Andalusia 2013	**Andalusia 2014**	**Andalusia 2015**
Registered area qualified for organic farming (m²)*	467 171	467 341	620 294
Estimated organic production in relation to the area (kg)*	2 319 772	2 463 027	3 629 185
Estimated productivity per m² per year (kg m^{-2})	**4,97**	**5,27**	**5,85**
Estimated productivity avg. of the three years (kg m^{-2})			**5,36**
	Murcia 2013	**Murcia 2014**	**Murcia 2015**
Registered area qualified for organic farming (m²)*	1 576 000	1 536 800	2 121 100
Estimated organic production in relation to the area (kg)*	7 880 000	12 715 000	10 600 000
Estimated productivity per m² per year (kg m^{-2})	**5,00**	**8,27**	**5,00**
Estimated productivity avg. of the three years (kg m^{-2})			**6,09**

*According to (Mapama Estadísticas, 2014, 2015, 2016).

Caution, the value of the estimated yield for Murcia in 2014 is relatively high compared to the yields attained in 2013 and 2015. It could have been a good year for organic pepper production resulting in high yields, but it could also be a miscalculation. Consequently, the estimated productivity for the three-year period and for Murcia 2014 could be lower.

For the remaining 17 autonomous communities of Spain, the productivity has been calculated too, applying the same scheme. The lowest estimated productivity for the three-year period can be found in Galicia (0.9 kg m^{-2} yr^{-1}) and the highest in Valencian Country (9.13 kg m^{-2} yr^{-1}). The national average of organic pepper production is about 3 kg m^{-2} yr^{-1}.

Appendix B: Interviewees and Transcript

Table 6: The Interviewees' names were anonymised. Their profession was used as pseudonym instead to refer to their field of expertise. The nationality is given since this also indicates the interviewee's country of expertise. Additionally, the following table summarizes how the inquiry was conducted and when.

Pseudonym	Profession	Inquiry	Nationality	Date
Certifier	Certifier assigned to Almería	E-Mailed Questions	Spanish	22.11.2017
Distributor	Commercial Director of Distributor	Personal Interview	Dutch	06.11.2017
Farmer	Demeter Certified Greenhouse Farmer	Personal Interview	Dutch	13.10.2017
Plant Raiser	Manager of Plant Nursery	Personal Interview	Dutch	06.11.2017
Raaijmakers	Maaike Raaijmakers, Project leader on Organic Seeds & Breeding (Bionext)	Personal Interview	Dutch	13.10.2017
Researcher	Researcher, Department of Biotechnology	Phone Call; E-mailed Questions	Spanish	24.11.2017
Seed Company 1	Project Management of Seed Company	Personal Interview	Dutch	13.10.2017
Seed Company 2	Sales Management of Seed Company	Personal Interview	Dutch	25.10.2017
Seed Company 3	Manager of Seed Company	Personal Interview	German	17.11.2017
Seed Company 4	Manager of Seed Company	Phone Call	Spanish	20.11.2017
Seed Company 5	Manager of Seed Company	Personal Interview	German	29.09.2017

Table 7: Transcript of the sections referred to in this study. ***(Please contact the author to get the full text version).***

[number]	Interviewee(s)	Transcript
[1]	**Plant Raiser; Seed Company 2**	
[2]	**Farmer**	
[3]	**Farmer; Researcher; Seed Company 3**	
[4]	**Farmer; Raaijmakers**	
[5]	**Plant Raiser**	
[6]	**Farmer**	
[7]	**Farmer**	
[8]	**Researcher**	
[9]	**Seed Company 3**	
[10]	**Researcher**	
[11]	**Distributor; Seed Company 1**	
[12]	**Distributor**	
[13]	**Researcher**	
[14]	**Researcher; Seed Company 4**	
[15]	**Raaijmakers**	

[16]	**Raaijmakers**	
[17]	**Raaijmakers**	
[18]	**Raaijmakers**	
[19]	**Seed Company 1**	
[20]	**Seed Company 1**	
[21]	**Seed Company 3**	
[22]	**Seed Company 5**	
[23]	**Seed Company 1;** **Seed Company 2**	
[24]	**Certifier;** **Researcher**	
[25]	**Seed Company 1**	
[26]	**Seed Company 2**	
[27]	**Plant Raiser;** **Researcher**	
[28]	**Farmer**	
[29]	**Seed Company 2**	
[30]	**Farmer;** **Plant Raiser;** **Seed Company 3**	
[31]	**Certifier**	
[32]	**Farmer;** **Plant Raiser**	
[33]	**Distributor**	
[34]	**Distributor**	
[35]	**Distributor**	
[36]	**Researcher**	
[37]	**Distributor;** **Seed Company 3**	
[38]	**Distributor;** **Researcher**	
[39]	**Seed Company 5**	
[40]	**Raaijmakers;** **Seed Company 1**	
[41]	**Seed Company 2**	
[42]	**Researcher;** **Seed Company 4**	
[43]	**Seed Company 1**	
[44]	**Seed Company 5**	

[45]	**Farmer**	
[46]	**Seed Company 5**	
[47]	**Seed Company 3**	

Appendix C: Raw Data Derogation Requests

Table 8: The Netherlands 2013. Authorised derogation requests pepper. Raw data.

Crop	Variety	Amount	Unit	Reason
Paprika	Palermo	2100	Stuks	Reden 3
Paprika	Stayer	7500	Stuks	Reden 3
Paprika	Davos	6500	Stuks	Reden 3
Paprika	EG 6197	100	Stuks	Reden 3
Paprika	EG 6132	300	Stuks	Reden 3
Paprika	Boogie	5200	Stuks	Reden 3
Paprika	Snooker	32 000	Stuks	Reden 3
Paprika	Atalante	500	Stuks	Reden 3
Paprika	Sven	11 500	Stuks	Reden 3
Paprika	Palermo	30 000	Stuks	Reden 2
Paprika	Foundation	250 000	Stuks	Reden 2
Paprika	Atalante	50 000	Stuks	Reden 2
Paprika	Maduro	50 000	Stuks	Reden 2
Paprika	Sven	65 000	Stuks	Reden 2
Paprika	WT 2103	50	Stuks	Reden 2
Paprika	WT 9421	400	Stuks	Reden 2
Paprika	WT 8400	50	Stuks	Reden 2
Paprika	WT 9420	200	Stuks	Reden 2
Paprika	E20B4541	2000	Stuks	Reden 4
Paprika	Falko	1000	Stuks	Reden 4
Paprika	Muley	1500	Stuks	Reden 4
Paprika	Snooker	500 000	Stuks	Reden 2
Paprika	E 20C.0050	1000	Stuks	Reden 2
Paprika	Ramiro	50 000	Stuks	Reden 2
Paprika	WT 2091	10 900	Stuks	Reden 2
Paprika	Stayer	50 000	Stuks	Reden 2
Paprika	Sven	10 000	Stuks	Reden 2
Paprika	Palermo	10 000	Stuks	Reden 2
Paprika	E.20B.4541	120	Stuks	Reden 2
Paprika	Atalante	11 500	Stuks	Reden 3
Paprika	Boogie	5800	Stuks	Reden 3
Paprika	DR 7054	25 000	Stuks	Reden 3
Paprika	Foundation	68 700	Stuks	Reden 3
Paprika	Allrounder	500	Stuks	Reden 4
Paprika	EZ 4541	300	Stuks	Reden 4
Paprika	Palermo	5800	Stuks	Reden 3
Paprika	RZ 35 182	500	Stuks	Reden 4
Paprika	Snooker	7300	Stuks	Reden 3
Paprika	Sven	32 500	Stuks	Reden 3
Paprika	Sven	15 000	Stuks	Reden 2
Paprika	WT 2091	130	Stuks	Reden 2
Paprika	WT 2067	130	Stuks	Reden 2

Paprika	Sven	20 000	Stuks	Reden 2
Paprika	Capital	100 000	Stuks	Reden 2

Table 9: The Netherlands 2014. Authorised derogation requests pepper. Raw data.

Crop	Variety	Amount	Unit	Reason
Paprika	earliest red	30	Stuks	Reden 4
Paprika	Atalante	750	Stuks	Reden 3
Paprika	RZ 35 182	250	Stuks	Reden 4
Paprika	Marvas	5000	Stuks	Reden 2
Paprika	RS 3524	100	Stuks	Reden 2
Paprika	E21R.10144	100	Stuks	Reden 2
Paprika	Foundation	150 000	Stuks	Reden 2
Paprika	Snooker	250 000	Stuks	Reden 2
Paprika	E20B.0039	5000	Stuks	Reden 2
Paprika	E20B.0073	5000	Stuks	Reden 2
Paprika	Allrounder	60 000	Stuks	Reden 2
Paprika	Jorrit	14 000	Stuks	Reden 2
Paprika	Stayer	12 000	Stuks	Reden 2
Paprika	E20B.0038	2600	Stuks	Reden 4
Paprika	E20B.0064	2000	Stuks	Reden 4
Paprika	E20B.0065	2000	Stuks	Reden 4
Paprika	WT 2103	10 000	Stuks	Reden 2
Paprika	WT 2450	150	Stuks	Reden 2
Paprika	WT 2455	120	Stuks	Reden 2
Paprika	WT 9420	350	Stuks	Reden 2
Paprika	WT 9423	350	Stuks	Reden 2
Paprika	WT 9425	350	Stuks	Reden 2
Paprika	Sven	100 000	Stuks	Reden 2
Paprika	Ramiro	15 000	Stuks	Reden 2
Paprika	TP 2301	500	Stuks	Reden 2
Paprika	TP 1301	500	Stuks	Reden 2
Paprika	TP 3301	40	Stuks	Reden 2
Paprika	RZ 35-523	2500	Stuks	Reden 2
Paprika	RZ 35-527	2500	Stuks	Reden 2
Paprika	Sven	50 000	Stuks	Reden 2
Paprika	Fabris	300	Stuks	Reden 4
Paprika	Redwing	300	Stuks	Reden 4
Paprika	E 431232	8000	Stuks	Reden 2
Paprika	Fortamino	163 600	Stuks	Reden 3
Paprika	Inzell	44 100	Stuks	Reden 3
Paprika	Snooker	28 500	Stuks	Reden 3
Paprika	Palermo	10 000	Stuks	Reden 2
Paprika	WT 2091	80	Stuks	Reden 2
Paprika	RZ. 35-189	200	Stuks	Reden 4

Table 10: The Netherlands 2015. Authorised derogation requests pepper. Raw data.

Crop	Variety	Amount	Unit	Reason
Paprika	Redline	11 200	Stuks	Reden 4
Paprika	Redwing	11 200	Stuks	Reden 4
Paprika	Foundation	92 000	Stuks	Reden 3
Paprika	OS 10	1850	Stuks	Reden 3
Paprika	Redline	2860	Stuks	Reden 4
Paprika	Redwing	2860	Stuks	Reden 4
Paprika	E20B0065	240	Stuks	Reden 4
Paprika	RZ 35248	100	Stuks	Reden 4
Paprika	WS 4203	100	Stuks	Reden 3
Paprika	EZ 0065	1300	Stuks	Reden 4
Paprika	RZ 35-189	100	Stuks	Reden 4
Paprika	RZ 35-190	100	Stuks	Reden 4
Paprika	Red 1008	100	Stuks	Reden 4
Paprika	Sven	27 600	Stuks	Reden 3
Paprika	Sven	25 800	Stuks	Reden 3
Paprika	RZ 35-527	4000	Stuks	Reden 2
Paprika	Palermo	14 000	Stuks	Reden 2
Paprika	WT 2091	5000	Stuks	Reden 2
Paprika	Marvas	2000	Stuks	Reden 2
Paprika	Kobold	1500	Stuks	Reden 3
Paprika	RZ35-527	2712	Stuks	Reden 3
Paprika	Palermo	10 464	Stuks	Reden 3
Paprika	Snooker	16 000	Stuks	Reden 3
Paprika	18 onderstammen x 15 planten	400	Stuks	Reden 4
Paprika	SEM. 02827989	1500	Stuks	Reden 2
Paprika	Mazurka	100	Stuks	Reden 4
Paprika	Mazurka	100	Stuks	Reden 4
Paprika	Allrounder	75 000	Stuks	Reden 2
Paprika	Snooker	500 000	Stuks	Reden 2
Paprika	Sven	80 000	Stuks	Reden 2
Paprika	Nesbitt	700	Stuks	Reden 4
Paprika	Redwing	600	Stuks	Reden 4
Paprika	Stayer	10 000	Stuks	Reden 2
Paprika	E 20155	10 000	Stuks	Reden 2
Paprika	WT 2103 gele snack	300	Stuks	Reden 2
Paprika	WT 2450 rood snack	300	Stuks	Reden 2
Paprika	WT 2455 oranje snack	300	Stuks	Reden 2
Paprika	WT 9420 midi blok rood	300	Stuks	Reden 2
Paprika	WT 9423 midi blok geel	300	Stuks	Reden 2
Paprika	WT 9425 midi blok oranje	300	Stuks	Reden 2
Paprika	RS 3524	1000	Stuks	Reden 2
Paprika	Redline	1500	Stuks	Reden 4
Paprika	WT 2090	100	Stuks	Reden 2
Paprika	WT 2201	100	Stuks	Reden 2

Paprika	WT 5345	100	Stuks	Reden 2
Paprika	E.20B0171	100	Stuks	Reden 2
Paprika	E.20B0119	100	Stuks	Reden 4
Paprika	E.20B0132	10 000	Stuks	Reden 2
Paprika	Redline	9500	Stuks	Reden 4
Paprika	Redwing	9500	Stuks	Reden 4
Paprika	redline	7100	Stuks	Reden 1
Paprika	WT 1225	25 000	Stuks	Reden 2
Paprika	Elmas	500	Stuks	Reden 2
Paprika	Fabris	500	Stuks	Reden 4
Paprika	Palermo	20 000	Stuks	Reden 2
Paprika	Volante	50 000	Stuks	Reden 2
Paprika	E20B0131	10 000	Stuks	Reden 2
Paprika	Foundation	250 000	Stuks	Reden 2
Paprika	Viper	5000	Stuks	Reden 4
Paprika	Inzell	50 000	Stuks	Reden 2
Paprika	Palermo	50 000	Stuks	Reden 2
Paprika	Yellyber	6500	Stuks	Reden 2
Paprika	Fabris	200	Stuks	Reden 4
Paprika	E20B.0061	800	Stuks	Reden 4
Paprika	Redline	10 000	Stuks	Reden 4
Paprika	Redwing	10 000	Stuks	Reden 4
Paprika	TP 1301	500	Stuks	Reden 2
Paprika	TP 1008	350	Stuks	Reden 4
Paprika	Snooker	65 000	Stuks	Reden 3
Paprika	Allrounder	75 000	Stuks	Reden 2
Paprika	E20155	3000	Stuks	Reden 2
Paprika	Expensive = DSP 7054	15 500	Stuks	Reden 3
Paprika	238 EZ20B0131, 259 EZ20B0138, 343 TP2050, 596 WLS 2090, 259 WLS 2490, 259 WLS 4305	2000	Stuks	Reden 4
Paprika	2000 WLS 4203	2000	Stuks	Reden 3
Paprika	E431232	1100	Stuks	Reden 3
Paprika	RZ 35-251	1100	Stuks	Reden 3
Paprika	Snooker	70 000	Stuks	Reden 3
Paprika	Sven	28 000	Stuks	Reden 3
Paprika	WLS 1225	15 500	Stuks	Reden 3
Paprika	WLS 2103 Yellow	550	Stuks	Reden 3
Paprika	WLS 2450 Red	50	Stuks	Reden 3
Paprika	WLS 2455	550	Stuks	Reden 3
Paprika	Expensive	13 500	Stuks	Reden 3
Paprika	E20B.0138	10 000	Stuks	Reden 3
Paprika	114 WLS 2090, 114 WLS 2215, 114 WLS2244	342	Stuks	Reden 4
Paprika	WT 2091	100	Stuks	Reden 2
Paprika	Proef van onderstammen, 10 soorten van 55 zaden 55 VB-103, 55 VB-104, 55 VB-107,	550	Stuks	Reden 3

	55 VB-108, 55 VB-110, 55 VB-111, 55 VB-112, 55 Con-102, 55 Nirvin			
Paprika	Snooker	850	Stuks	Reden 3
Paprika	28 Bella Italia, 28 Corno Di Toro, 14 FT-101, 28 Gatherer's Gold Sweet Italian, 28 Karma, 28 King Crimson, 14 MT-103, 14 MT-104, 14 MT-107, 14 MT-108, 14 MT-110, 14 MT-111, 14 MT-112, 28 Palermo, 28 Yosemite, 14 Pekin, 14 Roble, 14 Sanja, 28 Segura, 28 Stocky Golden Roaster, 28 Stocky Red Roaster, 28 Sweet Chocolate, 28 Sweet Sunset Italian Mix, 14 Tajo	504	Stuks	Reden 4
Paprika	Foundation	45 000	Stuks	Reden 3

Table 11: Spain 2013. Authorised derogation requests pepper. Raw data.

Crop	Variety	Requests	Amount	Unit	Reason
Pimiento	#	2	3000	no. de semillas	B
Pimiento	#	1	0.01	kg	C
Pimiento	#	11	0.17	kg	C
Pimiento	#	14	136 157	no. de semillas	C
Pimiento	#	6	0.03	kg	D
Pimiento	#	5	767	no. de semillas	D
Pimiento	09P5	1	5000	no. de semillas	C
Pimiento	1215	1	7000	no. de semillas	C
Pimiento	35-180RZ	1	1000	no. de semillas	C
Pimiento	35-523	1	1000	no. de semillas	C
Pimiento	584	8	8000	no. de semillas	C
Pimiento	Abadia	1	5000	no. de semillas	C
Pimiento	Acadya	1	1000	no. de semillas	C
Pimiento	Acorde	5	103 000	no. de semillas	C
Pimiento	AF 17064	1	300	no. de semillas	C
Pimiento	Aguera	3	30 000	no. de semillas	C
Pimiento	Aguila	14	424 000	no. de semillas	C
Pimiento	Airen	6	69 500	no. de semillas	C
Pimiento	Airone	2	6000	no. de semillas	C
Pimiento	Alicum	6	7750	no. de semillas	C
Pimiento	Almuden	1	3000	no. de semillas	A
Pimiento	Almuden	1	1000	no. de semillas	C
Pimiento	Alucas	1	7000	no. de semillas	C
Pimiento	Amarillo de Mallorca	2	0.05	kg	C
Pimiento	Amarillo de Mallorca	1	100 000	no. de semillas	C
Pimiento	Amparo	1	5000	no. de semillas	C
Pimiento	Antinema	1	900	no. de semillas	C
Pimiento	AR-3747	1	1000	no. de semillas	C
Pimiento	Ar-37776	1	300	no. de semillas	C
Pimiento	AR-37793	1	150	no. de semillas	C
Pimiento	AR-37811	1	1000	no. de semillas	C

Pimiento	Aran	11	7734	no. de semillas	C
Pimiento	Aristocrata	3	23 900	no. de semillas	C
Pimiento	Arnoia	1	500	no. de semillas	C
Pimiento	Arousa	1	5000	no. de semillas	A
Pimiento	Arousa	1	5000	no. de semillas	C
Pimiento	Ashdodna	1	1000	no. de semillas	C
Pimiento	Asun	2	24 000	no. de semillas	C
Pimiento	Balzac	2	6000	no. de semillas	C
Pimiento	Barbate	1	300	no. de semillas	C
Pimiento	Bellisa	4	7000	no. de semillas	C
Pimiento	Belmonte	1	2000	no. de semillas	C
Pimiento	Beniel	7	186 000	no. de semillas	C
Pimiento	Bily	28	476 697	no. de semillas	C
Pimiento	Blanco Rosal	1	500	no. de semillas	C
Pimiento	BS-47394	6	47 500	no. de semillas	C
Pimiento	BS-48418	1	1000	no. de semillas	C
Pimiento	BS-48518	2	48 000	no. de semillas	C
Pimiento	California	2	4300	no. de semillas	C
Pimiento	Campeadpr	1	8000	no. de semillas	C
Pimiento	Canal	1	10 000	no. de semillas	C
Pimiento	Carisma	1	0.10	kg	C
Pimiento	Carson	6	207 000	no. de semillas	C
Pimiento	Casillas	1	20 000	no. de semillas	C
Pimiento	Castilla	1	21 150	no. de semillas	C
Pimiento	Catedral	1	20 000	no. de semillas	C
Pimiento	Cayenna	1	300	no. de semillas	C
Pimiento	Caynne Long Slim	2	0.12	kg	C
Pimiento	Cayetano	2	11 400	no. de semillas	C
Pimiento	Celaya	2	36 000	no. de semillas	C
Pimiento	Celin	4	39 000	no. de semillas	C
Pimiento	Celta	4	17 100	no. de semillas	C
Pimiento	Cierzo	1	3000	no. de semillas	C
Pimiento	CJ123HF1	1	4000	no. de semillas	C
Pimiento	Cocalo	10	108 000	no. de semillas	C
Pimiento	Cornetto	1	0.005	kg	C
Pimiento	Coyote	1	10 000	no. de semillas	C
Pimiento	Cristal	2	0.21	kg	C
Pimiento	Darsena	1	2000	no. de semillas	C
Pimiento	De Cayenne	1	0.01	kg	A
Pimiento	De Cayenne	1	0.02	kg	C
Pimiento	Deniro	4	81 000	no. de semillas	C
Pimiento	Destello	2	21 000	no. de semillas	C
Pimiento	Dicaprio	1	5000	no. de semillas	C
Pimiento	Doux Tres Long des Landes	2	0.04	kg	A
Pimiento	Drago	1	5000	no. de semillas	C
Pimiento	DRP306	1	240	no. de semillas	C

Pimiento	DSP 7068	1	490	no. de semillas	C
Pimiento	DSP 7076	1	740	no. de semillas	C
Pimiento	Dulce Italiano	1	0.01	kg	A
Pimiento	Dulce Italiano	5	15 041	no. de semillas	C
Pimiento	Dulcinea	2	15 000	no. de semillas	C
Pimiento	E20B10072	2	24 500	no. de semillas	C
Pimiento	E20BI0060	1	500	no. de semillas	C
Pimiento	Ebro	2	6200	no. de semillas	C
Pimiento	Elvis	2	30 000	no. de semillas	C
Pimiento	Enciso	9	532 000	no. de semillas	C
Pimiento	Estilo	1	4000	no. de semillas	A
Pimiento	Estrella	1	1000	no. de semillas	C
Pimiento	FAR-7303	1	1000	no. de semillas	C
Pimiento	FAR-7428	1	1000	no. de semillas	C
Pimiento	FAR-7435	1	7000	no. de semillas	C
Pimiento	Faraon	2	76 000	no. de semillas	C
Pimiento	Ferraro	10	285 000	no. de semillas	C
Pimiento	Filom	1	1000	no. de semillas	C
Pimiento	Fireflame	2	61 000	no. de semillas	C
Pimiento	Fragata	1	2000	no. de semillas	C
Pimiento	Gacela	4	81 000	no. de semillas	C
Pimiento	Galena	4	55 000	no. de semillas	C
Pimiento	Gaston	1	1000	no. de semillas	C
Pimiento	Gepard	18	515 500	no. de semillas	C
Pimiento	Gerardo	1	11 000	no. de semillas	C
Pimiento	Giacomo	3	37 000	no. de semillas	C
Pimiento	Godzilla	1	33 000	no. de semillas	C
Pimiento	Gov	1	3000	no. de semillas	C
Pimiento	Guindilla Larga Roja	1	0.00	kg	C
Pimiento	Guindilla Larga Roja	1	188	no. de semillas	C
Pimiento	Gypsy	1	1000	no. de semillas	A
Pimiento	Gypsy	2	10 000	no. de semillas	C
Pimiento	Habana	1	96	no. de semillas	C
Pimiento	Hades	1	1000	no. de semillas	C
Pimiento	Heracles	7	3797	no. de semillas	C
Pimiento	Hermino	1	1000	no. de semillas	C
Pimiento	Hungarian Sweet Wax	1	20	no. de semillas	C
Pimiento	Hungarian Yellow Way Hot	1	20	no. de semillas	C
Pimiento	Imboro	1	240 000	no. de semillas	C
Pimiento	Imperio	1	2000	no. de semillas	C
Pimiento	Infante	3	30 000	no. de semillas	C
Pimiento	Italico	5	6825	no. de semillas	C
Pimiento	Italress	2	6000	no. de semillas	A
Pimiento	Jalapeno	1	96	no. de semillas	C
Pimiento	Jaranda	1	4.00	kg	C
Pimiento	Jaranda	4	2 585 000	no. de semillas	C

Pimiento	Jimmy	3	15 000	no. de semillas	C
Pimiento	Jumilla	6	527 000	no. de semillas	C
Pimiento	Kaiman	1	1000	no. de semillas	C
Pimiento	Kappone	4	3000	no. de semillas	C
Pimiento	Kasillas	1	20 000	no. de semillas	C
Pimiento	Lamuyo	6	41 660	no. de semillas	C
Pimiento	Lapid	1	4000	no. de semillas	C
Pimiento	Lapillo	1	1000	no. de semillas	C
Pimiento	Lazaro	2	2000	no. de semillas	C
Pimiento	Lipari	2	40 000	no. de semillas	C
Pimiento	Lo Romero	3	200 000	no. de semillas	C
Pimiento	Lucero	1	22 000	no. de semillas	C
Pimiento	Lucumone	1	1000	no. de semillas	C
Pimiento	Macio	1	10 000	no. de semillas	C
Pimiento	Maestral	7	50 000	no. de semillas	C
Pimiento	Manolo	6	2544	no. de semillas	C
Pimiento	Mariscal	1	2000	no. de semillas	C
Pimiento	Mazo	1	1000	no. de semillas	C
Pimiento	Melchor	7	266 950	no. de semillas	C
Pimiento	Mercurio	2	17 300	no. de semillas	C
Pimiento	Mogan	1	6000	no. de semillas	C
Pimiento	Morron de Conserva 2	1	0.20	kg	C
Pimiento	Multi	1	12 000	no. de semillas	A
Pimiento	Murano	13	273 480	no. de semillas	C
Pimiento	Muriel	3	75 000	no. de semillas	C
Pimiento	Mustang	4	127 500	no. de semillas	C
Pimiento	Najerano	2	0.05	kg	C
Pimiento	Najerano	2	12 000	no. de semillas	C
Pimiento	Nazar	1	1000	no. de semillas	C
Pimiento	Nirvin	13	172 000	no. de semillas	C
Pimiento	Nora	1	0.01	kg	A
Pimiento	Nora	1	0.50	kg	C
Pimiento	Nora	2	192 000	no. de semillas	C
Pimiento	Ohnivec	1	20	no. de semillas	C
Pimiento	Olympia	1	7000	no. de semillas	C
Pimiento	Orangadya	1	5000	no. de semillas	C
Pimiento	Orange flame	1	20	no. de semillas	C
Pimiento	Orias	1	1000	no. de semillas	C
Pimiento	Orquesta	2	7000	no. de semillas	C
Pimiento	P25251	1	1000	no. de semillas	C
Pimiento	P5102	1	1000	no. de semillas	C
Pimiento	Padron	2	2300	no. de semillas	C
Pimiento	Padron	1	0.01	kg	C
Pimiento	Pairal	1	2000	no. de semillas	C
Pimiento	Palermo	26	436 150	no. de semillas	C
Pimiento	Pasodoble	1	1000	no. de semillas	C

Pimiento	Piquillo	1	0.08	kg	A
Pimiento	Piquillo	1	0.10	kg	C
Pimiento	Piquillo	1	120 000	no. de semillas	C
Pimiento	Pluto	1	1000	no. de semillas	C
Pimiento	Pompeo	1	10 000	no. de semillas	C
Pimiento	Prometeo	21	279 700	no. de semillas	C
Pimiento	Ramonete	1	1000	no. de semillas	C
Pimiento	Red Mountain	1	5000	no. de semillas	C
Pimiento	Redskin	1	10 000	no. de semillas	A
Pimiento	Roble	1	3000	no. de semillas	A
Pimiento	Salmeron	1	18 000	no. de semillas	C
Pimiento	Samson	2	12 000	no. de semillas	C
Pimiento	Serrano	1	96	no. de semillas	C
Pimiento	Sinfony	4	40 000	no. de semillas	C
Pimiento	Snacking	4	5000	no. de semillas	C
Pimiento	Sobek	1	3000	no. de semillas	C
Pimiento	Sonar	1	10 000	no. de semillas	A
Pimiento	Sondela	4	39 000	no. de semillas	C
Pimiento	Sonique	1	9000	no. de semillas	C
Pimiento	Souleria	7	98 000	no. de semillas	C
Pimiento	Starflame	2	14 000	no. de semillas	C
Pimiento	SV1211PB	1	5000	no. de semillas	C
Pimiento	SV1215PB	4	50 200	no. de semillas	C
Pimiento	Sweet Bite	1	5000	no. de semillas	C
Pimiento	Sweet Chocolate	1	16	no. de semillas	C
Pimiento	Symfonia	10	270 000	no. de semillas	C
Pimiento	Sympathy	2	126 000	no. de semillas	C
Pimiento	Tallante	9	244 000	no. de semillas	C
Pimiento	Tamarin	1	1000	no. de semillas	A
Pimiento	Tamarin	6	138 480	no. de semillas	C
Pimiento	Teson	1	3000	no. de semillas	C
Pimiento	Tirex	1	1000	no. de semillas	C
Pimiento	Tomelloso	2	2000	no. de semillas	C
Pimiento	Top Farran	1	20 000	no. de semillas	C
Pimiento	Tramontana	1	200 000	no. de semillas	C
Pimiento	Traviatta	7	659 000	no. de semillas	C
Pimiento	UB11646	1	1000	no. de semillas	C
Pimiento	UB12640	1	20 000	no. de semillas	C
Pimiento	Utiel	11	379 000	no. de semillas	C
Pimiento	Valdivia	5	108 000	no. de semillas	C
Pimiento	Valroyo	9	286 000	no. de semillas	C
Pimiento	Velero	13	206 000	no. de semillas	C
Pimiento	Veleta	1	900	no. de semillas	C
Pimiento	Velez	9	324 830	no. de semillas	C
Pimiento	Verset	2	121 000	no. de semillas	C
Pimiento	WT 2103	1	2600	no. de semillas	C

Pimiento	WT 8400	1	2000	no. de semillas	C
Pimiento	Yolo Wonder	1	10 000	no. de semillas	A

Table 12: Spain 2014. Authorised derogation requests pepper. Raw data.

Crop	Variety	Requests	Amount	Unit	Reason
Pimiento	#	8	2.40	kg	C
Pimiento	#	33	225 850	no. de semillas	C
Pimiento	#	11	730	no. de semillas	D
Pimiento	10783	6	2000	no. de semillas	D
Pimiento	12-13	5	5000	no. de semillas	C
Pimiento	1215	10	35 000	no. de semillas	C
Pimiento	141	9	52 000	no. de semillas	C
Pimiento	14P11	1	24 000	no. de semillas	C
Pimiento	35-141	5	33 000	no. de semillas	C
Pimiento	35-523	1	1000	no. de semillas	C
Pimiento	5506	6	3000	no. de semillas	D
Pimiento	5905	6	1000	no. de semillas	D
Pimiento	7897	1	3000	no. de semillas	C
Pimiento	9600	11	2000	no. de semillas	C
Pimiento	Acadya	1	3000	no. de semillas	C
Pimiento	Acorde	1	20 000	no. de semillas	A
Pimiento	Acorde	27	139 000	no. de semillas	C
Pimiento	Aguila	13	336 000	no. de semillas	C
Pimiento	Airen	1	12 000	no. de semillas	C
Pimiento	Airone	1	1000	no. de semillas	C
Pimiento	Aitana	5	59 000	no. de semillas	C
Pimiento	AK10783	11	4000	no. de semillas	C
Pimiento	AK5501	1	1000	no. de semillas	C
Pimiento	AK5503	1	1000	no. de semillas	C
Pimiento	AK5504	1	1000	no. de semillas	C
Pimiento	AK5905	11	2000	no. de semillas	C
Pimiento	AK5910	1	1000	no. de semillas	C
Pimiento	Albino Bullnose	1	10	no. de semillas	C
Pimiento	Alcantara	2	2500	no. de semillas	C
Pimiento	Alcudia	2	14 000	no. de semillas	C
Pimiento	Alicum	8	1140	no. de semillas	C
Pimiento	Alucas	9	39 000	no. de semillas	C
Pimiento	Alvaro	1	23 000	no. de semillas	C
Pimiento	Amando	2	720	no. de semillas	C
Pimiento	Amarillo de Mallorca	1	0.10	kg	C
Pimiento	Ananheim	1	100	no. de semillas	C
Pimiento	Angus	6	132 000	no. de semillas	C
Pimiento	Antonio	1	494	no. de semillas	C
Pimiento	AR-37824	1	1000	no. de semillas	C
Pimiento	AR-37827	2	113 000	no. de semillas	C

Pimiento	AR-96094	1	2184	no. de semillas	C
Pimiento	Aran	11	4293	no. de semillas	C
Pimiento	Armanda	3	20 000	no. de semillas	C
Pimiento	Arnold	8	12 000	no. de semillas	C
Pimiento	Arousa	1	5000	no. de semillas	C
Pimiento	Arrod	2	24 000	no. de semillas	C
Pimiento	Artega	1	8000	no. de semillas	C
Pimiento	Artico	1	24 000	no. de semillas	C
Pimiento	Asar	38	800	no. de semillas	C
Pimiento	Ashdona	1	3000	no. de semillas	C
Pimiento	Astor	1	50	no. de semillas	C
Pimiento	Asun	1	22 000	no. de semillas	C
Pimiento	Atalante	1	1872	no. de semillas	C
Pimiento	Aurelio	1	1000	no. de semillas	C
Pimiento	Babieca	5	6000	no. de semillas	C
Pimiento	Balboa	3	56 000	no. de semillas	C
Pimiento	Balzac	3	23 904	no. de semillas	C
Pimiento	Bellisa	1	13 000	no. de semillas	C
Pimiento	Beniel	11	379 000	no. de semillas	C
Pimiento	Beniel (B547394)	1	20 000	no. de semillas	C
Pimiento	BF51282	1	350	no. de semillas	C
Pimiento	Bierzo	2	10 500	no. de semillas	C
Pimiento	Bihar	1	0.01	kg	C
Pimiento	Billy/Prometeo	1	30 000	no. de semillas	C
Pimiento	Bily	58	416 650	no. de semillas	C
Pimiento	Bismark	12	16 000	no. de semillas	C
Pimiento	Bitxo De Girona	2	360	no. de semillas	C
Pimiento	BS351	1	1000	no. de semillas	C
Pimiento	Bunker	1	1000	no. de semillas	C
Pimiento	Cabaneros	3	40 000	no. de semillas	C
Pimiento	California Amarillo	1	100	no. de semillas	C
Pimiento	California Blanco	1	100	no. de semillas	C
Pimiento	California Morado	1	100	no. de semillas	C
Pimiento	California Naranja	1	100	no. de semillas	C
Pimiento	California Rojo	1	100	no. de semillas	C
Pimiento	Calpisa	1	20 000	no. de semillas	C
Pimiento	Canal	1	30 000	no. de semillas	C
Pimiento	Candela	11	2000	no. de semillas	C
Pimiento	Capri	2	82 000	no. de semillas	C
Pimiento	Captain	9	6100	no. de semillas	C
Pimiento	Carisma	4	38 080	no. de semillas	C
Pimiento	Caronto	1	10 000	no. de semillas	C
Pimiento	Carson	9	212 000	no. de semillas	C
Pimiento	Casillas	2	16 000	no. de semillas	C
Pimiento	Castelo	2	70 000	no. de semillas	C
Pimiento	Castilla	4	40 000	no. de semillas	C

Pimiento	Celaya	17	118 000	no. de semillas	C
Pimiento	Celta	2	29 000	no. de semillas	C
Pimiento	Chili-AS	1	0.01	kg	C
Pimiento	Clavesol	6	28 000	no. de semillas	C
Pimiento	Cocalo	23	154 000	no. de semillas	C
Pimiento	Coperi	1	0.09	kg	C
Pimiento	Corera	1	32 000	no. de semillas	C
Pimiento	Cornicabra	42	1515	no. de semillas	C
Pimiento	Corno di Capra	1	90	no. de semillas	C
Pimiento	Creonte	1	10 000	no. de semillas	C
Pimiento	Cristal	3	29 836	no. de semillas	C
Pimiento	Cuerno de Cabra	1	4050	no. de semillas	C
Pimiento	D11-326	1	500	no. de semillas	C
Pimiento	D11-334	1	500	no. de semillas	C
Pimiento	Dark Devil	6	2000	no. de semillas	C
Pimiento	Delux California	1	900	no. de semillas	C
Pimiento	Deniro	18	122 000	no. de semillas	C
Pimiento	Dicaprio	10	49 000	no. de semillas	C
Pimiento	Drago	2	7550	no. de semillas	C
Pimiento	Dulce De Espana	1	0.10	kg	C
Pimiento	Dulce De Espana	1	30	no. de semillas	C
Pimiento	Dulce Italiano	2	8000	no. de semillas	A
Pimiento	Dulce Italiano	1	0.57	kg	C
Pimiento	Dulce Italiano	6	3030	no. de semillas	C
Pimiento	E 20B10091	1	500	no. de semillas	C
Pimiento	E 499524	1	100	no. de semillas	C
Pimiento	E 499526	1	100	no. de semillas	C
Pimiento	E 499531	1	100	no. de semillas	C
Pimiento	E20B10015	1	18 000	no. de semillas	C
Pimiento	Emilico	2	360	no. de semillas	C
Pimiento	Enciso	1	15 000	no. de semillas	C
Pimiento	Estilo	1	2000	no. de semillas	C
Pimiento	Estrella	1	200 000	no. de semillas	C
Pimiento	Etna	1	100	no. de semillas	C
Pimiento	Faraon	5	73 000	no. de semillas	C
Pimiento	Farran	1	39 000	no. de semillas	C
Pimiento	Ferrari	1	74 000	no. de semillas	C
Pimiento	Festos	1	1000	no. de semillas	C
Pimiento	Filon	2	5000	no. de semillas	C
Pimiento	Fireflame	13	72 000	no. de semillas	C
Pimiento	Fragata	1	1000	no. de semillas	C
Pimiento	Fujillama	4	1000	no. de semillas	C
Pimiento	Gacela	3	98 000	no. de semillas	C
Pimiento	Galena	22	69 000	no. de semillas	C
Pimiento	Gepard	7	337 500	no. de semillas	C
Pimiento	Gerardo	1	6500	no. de semillas	C

Pimiento	Gernika	1	1000	no. de semillas	C
Pimiento	Giacomo	23	68 000	no. de semillas	C
Pimiento	Godzilla	4	37 000	no. de semillas	C
Pimiento	Goripe	13	6847	no. de semillas	C
Pimiento	Gov	3	18 000	no. de semillas	C
Pimiento	Gozumel	1	14 000	no. de semillas	C
Pimiento	Guindilla	1	0.20	kg	C
Pimiento	Guindilla	39	4075	no. de semillas	C
Pimiento	Guindilla Blanco	2	200	no. de semillas	C
Pimiento	Guindilla De Cazorla	1	0.001	kg	C
Pimiento	Guindilla de Gernika	2	85 000	no. de semillas	C
Pimiento	Guindilla Larga Roja	2	200	no. de semillas	C
Pimiento	Guindilla Morado	1	100	no. de semillas	C
Pimiento	Guindilla Naranja	2	200	no. de semillas	C
Pimiento	Guindilla Pequena Amarilla	1	0.05	kg	A
Pimiento	Guindilla Pequena Amarilla	2	200	no. de semillas	C
Pimiento	Guindilla Vasca	1	120	no. de semillas	C
Pimiento	Habanero Blanco	1	100	no. de semillas	C
Pimiento	Habanero Rojo	1	100	no. de semillas	C
Pimiento	Hades	1	2000	no. de semillas	C
Pimiento	Heracles	9	15 080	no. de semillas	C
Pimiento	Hyffae	3	32 000	no. de semillas	C
Pimiento	Idilio	1	1000	no. de semillas	C
Pimiento	Ifay	11	8000	no. de semillas	C
Pimiento	Imboro	1	178 388	no. de semillas	C
Pimiento	Imperio	5	6000	no. de semillas	C
Pimiento	Infante	9	437 400	no. de semillas	C
Pimiento	Isabel	5	21 000	no. de semillas	C
Pimiento	Isidro	1	1000	no. de semillas	C
Pimiento	Italiano	41	11 350	no. de semillas	C
Pimiento	Italiano Amarillo	1	100	no. de semillas	C
Pimiento	Italiano Morado	1	100	no. de semillas	C
Pimiento	Italiano Naranja	1	100	no. de semillas	C
Pimiento	Italiano Rojo	1	100	no. de semillas	C
Pimiento	Italico	2	12 000	no. de semillas	C
Pimiento	Italress	3	17 000	no. de semillas	C
Pimiento	Jalapeno	40	200	no. de semillas	C
Pimiento	Jalapeno	1	0.16	kg	C
Pimiento	Jaranda	1	1.20	kg	C
Pimiento	Jumilla	2	251 000	no. de semillas	C
Pimiento	Kappy	1	11 000	no. de semillas	C
Pimiento	Kintal	1	4200	no. de semillas	C
Pimiento	Lamuyo	1	3000	no. de semillas	A
Pimiento	Lamuyo	3	42 000	no. de semillas	C
Pimiento	Lamuyo Amarillo	1	150	no. de semillas	C
Pimiento	Lany	1	250	no. de semillas	C

Pimiento	Lipari	7	71 000	no. de semillas	C
Pimiento	Locoto	1	20	no. de semillas	C
Pimiento	Lodosa	1	12 000	no. de semillas	C
Pimiento	Macio	2	5000	no. de semillas	A
Pimiento	Maestrak	2	42 000	no. de semillas	C
Pimiento	Magno	4	77 000	no. de semillas	C
Pimiento	Manolo	18	6559	no. de semillas	C
Pimiento	Melchor	59	677 650	no. de semillas	C
Pimiento	Melrose	1	25	no. de semillas	C
Pimiento	Morraine	1	0.10	kg	C
Pimiento	Morron de Conserva 2	1	0.003	kg	C
Pimiento	Ms24 PCA704 Toltec	1	150	no. de semillas	C
Pimiento	Murano	2	253 000	no. de semillas	C
Pimiento	Muriel	19	902 000	no. de semillas	C
Pimiento	Mustang	3	32 000	no. de semillas	C
Pimiento	Najerano	5	213 500	no. de semillas	C
Pimiento	Naranja Mini	1	20	no. de semillas	C
Pimiento	Nirvin	38	255 314	no. de semillas	C
Pimiento	Noral	1	100	no. de semillas	C
Pimiento	Noral	3	0.12	kg	C
Pimiento	Noral	3	601 528	no. de semillas	C
Pimiento	Oaxaca	2	4000	no. de semillas	C
Pimiento	Olimpiakos	4	102 000	no. de semillas	C
Pimiento	Olivencia	11	12 000	no. de semillas	C
Pimiento	Orangadya	1	10 000	no. de semillas	C
Pimiento	Orange flame	1	1000	no. de semillas	C
Pimiento	Orange glory	2	16 000	no. de semillas	C
Pimiento	Orquesta California Amarillo	1	1800	no. de semillas	C
Pimiento	P25553	3	8000	no. de semillas	D
Pimiento	Padron	1	5000	no. de semillas	A
Pimiento	Padron	2	0.02	kg	B
Pimiento	Padron	1	144	no. de semillas	B
Pimiento	Padron	1	0.04	kg	C
Pimiento	Padron	3	1240	no. de semillas	C
Pimiento	Pairal	1	3000	no. de semillas	C
Pimiento	Palermo	152	1 040 100	no. de semillas	C
Pimiento	Pasilla Bajio	1	25	no. de semillas	C
Pimiento	Pasion	1	1000	no. de semillas	A
Pimiento	PI 903	1	500	no. de semillas	C
Pimiento	Picant	1	400	no. de semillas	C
Pimiento	Piccante Di Cayenna	1	0.002	kg	C
Pimiento	Piquillo	5	0.53	kg	C
Pimiento	Piramyde	1	100	no. de semillas	C
Pimiento	Pisa	1	5000	no. de semillas	C
Pimiento	Poblano	1	25	no. de semillas	C
Pimiento	Prometeo	37	435 200	no. de semillas	C

Pimiento	Prometheus	5	28 000	no. de semillas	C
Pimiento	Rainbow 5050	1	0.15	kg	C
Pimiento	Ramiro	2	16 000	no. de semillas	C
Pimiento	Realtos	1	4000	no. de semillas	C
Pimiento	Red Hot	1	100	no. de semillas	C
Pimiento	Red Jet	1	1000	no. de semillas	C
Pimiento	Red Marconi	1	25	no. de semillas	C
Pimiento	Red Rawit	1	100	no. de semillas	C
Pimiento	Requena	1	1000	no. de semillas	C
Pimiento	Roble	1	2000	no. de semillas	C
Pimiento	Rommen	1	15 000	no. de semillas	A
Pimiento	Rommen	1	17 000	no. de semillas	C
Pimiento	RZ54600	1	7000	no. de semillas	C
Pimiento	SA 1340	1	250	no. de semillas	A
Pimiento	SA 7024	1	250	no. de semillas	A
Pimiento	Salmeron	46	230 700	no. de semillas	C
Pimiento	Samson	6	36 000	no. de semillas	C
Pimiento	Sansone	1	5000	no. de semillas	C
Pimiento	SB1211	1	6000	no. de semillas	C
Pimiento	Scotch-Bonnet	3	130	no. de semillas	C
Pimiento	Segura	2	4000	no. de semillas	C
Pimiento	Serrano	1	100	no. de semillas	C
Pimiento	SG418	1	5000	no. de semillas	C
Pimiento	SG518	1	5000	no. de semillas	C
Pimiento	Shishito	1	25	no. de semillas	C
Pimiento	Sinfony	11	418 288	no. de semillas	C
Pimiento	Snack WLS-2103	1	29 000	no. de semillas	C
Pimiento	Snack WLS-2450	1	29 000	no. de semillas	C
Pimiento	Snack WLS-2455	1	29 000	no. de semillas	C
Pimiento	Snacking	2	6500	no. de semillas	C
Pimiento	Snacking Red	1	500	no. de semillas	C
Pimiento	Snacking Yellow	1	500	no. de semillas	C
Pimiento	Soberano	2	2100	no. de semillas	C
Pimiento	Sondela	1	204 000	no. de semillas	C
Pimiento	Souleria	36	253 000	no. de semillas	C
Pimiento	Starflame	1	4000	no. de semillas	C
Pimiento	Super Chili	1	6000	no. de semillas	C
Pimiento	SV1211	1	9000	no. de semillas	C
Pimiento	SV1211PV	4	38 000	no. de semillas	C
Pimiento	SV1215PB	1	4000	no. de semillas	C
Pimiento	Sweet Bite	2	18 000	no. de semillas	C
Pimiento	Tabasco	2	125	no. de semillas	C
Pimiento	Tallante	12	434 200	no. de semillas	C
Pimiento	Tamarin	25	434 000	no. de semillas	C
Pimiento	Tequila	1	100	no. de semillas	C
Pimiento	Teson	1	5000	no. de semillas	C

Pimiento	Thai Lady Finger	1	100	no. de semillas	C
Pimiento	Tinsena	1	300	no. de semillas	C
Pimiento	Tirex	1	1000	no. de semillas	C
Pimiento	Toledano	1	4050	no. de semillas	C
Pimiento	Tomelloso	11	549 000	no. de semillas	C
Pimiento	TOP-166	1	2000	no. de semillas	C
Pimiento	Top Arnon	1	30 000	no. de semillas	A
Pimiento	Top Arnon	12	84 000	no. de semillas	C
Pimiento	Traviatta	7	717 538	no. de semillas	C
Pimiento	Uinfantes	1	988	no. de semillas	C
Pimiento	Utiel	10	272 682	no. de semillas	C
Pimiento	Vajie	1	5000	no. de semillas	C
Pimiento	Valdivia	2	44 000	no. de semillas	C
Pimiento	Valerio	2	12 500	no. de semillas	C
Pimiento	Valroyo	21	316 700	no. de semillas	C
Pimiento	Velero	26	350 000	no. de semillas	C
Pimiento	Veleta	3	3300	no. de semillas	C
Pimiento	Velez	7	224 000	no. de semillas	C
Pimiento	Willy	1	200	no. de semillas	C
Pimiento	Zoak	4	58 000	no. de semillas	C

Table 13: Spain 2015. Authorised derogation requests pepper. Raw data.

Crop	Variety	Requests	Amount	Unit	Reason
Pimiento	#	32	1442	no. de semillas	C
Pimiento	#	9	2.60	kg	C
Pimiento	#	35	220 550	no. de semillas	C
Pimiento	#	17	0.43	kg	D
Pimiento	#	7	47 129	no. de semillas	D
Pimiento	10034	3	6000	no. de semillas	D
Pimiento	1215	10	79 000	no. de semillas	C
Pimiento	35-141	4	27 000	no. de semillas	C
Pimiento	35185-RZ	2	18 000	no. de semillas	D
Pimiento	35-247RZ	1	4000	no. de semillas	D
Pimiento	35-529	5	5600	no. de semillas	D
Pimiento	41230434	6	1000	no. de semillas	D
Pimiento	43	3	8000	no. de semillas	D
Pimiento	Abadia	1	5000	no. de semillas	C
Pimiento	Acadya	4	4244	no. de semillas	C
Pimiento	Acorde	40	224 300	no. de semillas	C
Pimiento	Aguila	105	66 000	no. de semillas	C
Pimiento	Airen	1	2000	no. de semillas	C
Pimiento	Airone	6	8108	no. de semillas	C
Pimiento	Alcantara	2	45 000	no. de semillas	C
Pimiento	Alcudia	2	4000	no. de semillas	C
Pimiento	Alicum	6	106 547	no. de semillas	C

Pimiento	Almanzor	8	5760	no. de semillas	C
Pimiento	Alucas	4	20 000	no. de semillas	C
Pimiento	Amando	9	3710	no. de semillas	C
Pimiento	Angus	21	692 000	no. de semillas	C
Pimiento	AR-37796	1	4000	no. de semillas	C
Pimiento	AR-37827	2	112 000	no. de semillas	C
Pimiento	AR-37868	2	21 000	no. de semillas	C
Pimiento	AR-37870	2	21 000	no. de semillas	C
Pimiento	AR-37874	1	500	no. de semillas	C
Pimiento	AR-96106	1	1500	no. de semillas	D
Pimiento	Aran	25	7481	no. de semillas	C
Pimiento	Arnold	41	709 432	no. de semillas	C
Pimiento	Arousa	3	35 000	no. de semillas	C
Pimiento	Arrod	23	146 500	no. de semillas	C
Pimiento	Artico	28	95 000	no. de semillas	C
Pimiento	Ashdona	3	3244	no. de semillas	C
Pimiento	Asun	1	22 000	no. de semillas	C
Pimiento	Aurelio	2	2000	no. de semillas	C
Pimiento	Azahar	2	12 000	no. de semillas	C
Pimiento	Babieca	25	84 000	no. de semillas	C
Pimiento	Balzac	2	4558	no. de semillas	C
Pimiento	Bari	4	57 000	no. de semillas	C
Pimiento	Belmar	1	90 000	no. de semillas	C
Pimiento	Belmonte	2	4000	no. de semillas	C
Pimiento	Bendigo	2	20 300	no. de semillas	C
Pimiento	Beniel	6	206 400	no. de semillas	C
Pimiento	BF50820	1	300	no. de semillas	C
Pimiento	Bily	282	410 216	no. de semillas	C
Pimiento	Bismark	8	31 000	no. de semillas	C
Pimiento	Bixto de Girona	4	510	no. de semillas	C
Pimiento	Boiro	1	3000	no. de semillas	C
Pimiento	Bola	2	300	no. de semillas	C
Pimiento	Bolero	1	300	no. de semillas	C
Pimiento	Brocanto	1	10 000	no. de semillas	C
Pimiento	BS49569	1	1000	no. de semillas	C
Pimiento	California	25	30 050	no. de semillas	C
Pimiento	California Amarillo	2	320	no. de semillas	C
Pimiento	California Naranja	2	160	no. de semillas	C
Pimiento	California Wonder	1	0.01	kg	C
Pimiento	Canal	7	67 000	no. de semillas	C
Pimiento	Cancion	62	170 500	no. de semillas	C
Pimiento	Candela	24	1000	no. de semillas	C
Pimiento	Carisma	6	37 240	no. de semillas	C
Pimiento	Carmen	1	18 000	no. de semillas	C
Pimiento	Carson	29	329 500	no. de semillas	C
Pimiento	Castellano	20	550	no. de semillas	C

Pimiento	Castelo	6	42 000	no. de semillas	C
Pimiento	Castilla	4	260 030	no. de semillas	C
Pimiento	Cayenna	1	300	no. de semillas	C
Pimiento	Cayetano	4	43 000	no. de semillas	C
Pimiento	Cece-AS	1	100	no. de semillas	C
Pimiento	Celaya	49	207 500	no. de semillas	C
Pimiento	Celta	1	20 000	no. de semillas	B
Pimiento	Celta	3	18 000	no. de semillas	C
Pimiento	Centi Odorant	1	5000	no. de semillas	C
Pimiento	CGP0009	1	35 000	no. de semillas	D
Pimiento	Chaman	4	2000	no. de semillas	C
Pimiento	Clavesol	5	88 000	no. de semillas	C
Pimiento	CLX37717	1	3250	no. de semillas	C
Pimiento	Cocalo	13	37 000	no. de semillas	C
Pimiento	Comodoro	11	17 000	no. de semillas	C
Pimiento	Corera	1	80 000	no. de semillas	C
Pimiento	Cornicabra	27	4450	no. de semillas	C
Pimiento	Cozumel	2	24 000	no. de semillas	C
Pimiento	Cristal	1	0.01	kg	C
Pimiento	Cristal	1	26 354	no. de semillas	C
Pimiento	DareDevil	25	120 300	no. de semillas	C
Pimiento	Darsena	1	450	no. de semillas	C
Pimiento	Deniro	5	51 000	no. de semillas	C
Pimiento	DF50820	6	2000	no. de semillas	D
Pimiento	Dinamica	1	39 000	no. de semillas	C
Pimiento	Dulce De Espana	1	0.002	kg	C
Pimiento	Dulce Italiano TMR	2	0.11	kg	C
Pimiento	Dulce Italiano TMR	6	7610	no. de semillas	C
Pimiento	Dulcinea	1	14 000	no. de semillas	C
Pimiento	DY15080	6	2000	no. de semillas	D
Pimiento	E20510880A	3	12 000	no. de semillas	D
Pimiento	E20512779R	3	12 000	no. de semillas	D
Pimiento	E2054216N	3	12 000	no. de semillas	D
Pimiento	E20B10034	1	1000	no. de semillas	D
Pimiento	E20B10083	1	1000	no. de semillas	D
Pimiento	E20B10168	4	6000	no. de semillas	D
Pimiento	E20B10171	1	500	no. de semillas	D
Pimiento	E20C0043	1	8000	no. de semillas	D
Pimiento	E20S10880	13	5000	no. de semillas	C
Pimiento	E20S12779	13	5000	no. de semillas	D
Pimiento	E20S4216	13	5000	no. de semillas	C
Pimiento	E22M0157F1	1	1000	no. de semillas	D
Pimiento	E499524	6	7000	no. de semillas	D
Pimiento	E499526	6	6000	no. de semillas	D
Pimiento	E499531	6	6000	no. de semillas	D
Pimiento	Elvis	10	6000	no. de semillas	C

Pimiento	Emilico	9	1140	no. de semillas	C
Pimiento	Enciso	1	20 000	no. de semillas	C
Pimiento	Enrique	1	3500	no. de semillas	C
Pimiento	EZ0B10083	1	15 000	no. de semillas	C
Pimiento	F-1211	1	5000	no. de semillas	C
Pimiento	FA78971KS	1	8000	no. de semillas	C
Pimiento	Fan	3	40 000	no. de semillas	C
Pimiento	Faraon	4	9000	no. de semillas	C
Pimiento	Farra	5	9000	no. de semillas	C
Pimiento	Ferrari	1	15 000	no. de semillas	C
Pimiento	Filon	5	14 000	no. de semillas	C
Pimiento	Fireflame	27	68 500	no. de semillas	C
Pimiento	Floridor	1	0.01	kg	C
Pimiento	Fragata	1	1000	no. de semillas	C
Pimiento	Fresno	1	120	no. de semillas	C
Pimiento	Fuego	1	10 000	no. de semillas	C
Pimiento	Gacela	6	96 013	no. de semillas	C
Pimiento	Galena	58	487 000	no. de semillas	C
Pimiento	Gandhi	6	1000	no. de semillas	C
Pimiento	Garbino	2	49 300	no. de semillas	C
Pimiento	Gelber Block	1	100	no. de semillas	C
Pimiento	Gepard	10	269 000	no. de semillas	C
Pimiento	Gerardo	1	12 000	no. de semillas	C
Pimiento	Giacomo	2	2780	no. de semillas	C
Pimiento	Godzilla	1	2000	no. de semillas	C
Pimiento	Gordo	5	110	no. de semillas	C
Pimiento	Goripe	11	6800	no. de semillas	C
Pimiento	Guernica	1	150	no. de semillas	C
Pimiento	Guindilla Larga Roja	2	0.02	kg	B
Pimiento	Guindilla Larga Roja	2	0.31	kg	C
Pimiento	Guindilla Larga Roja	1	30	no. de semillas	C
Pimiento	Guindilla Pequena Amarilla	1	2.00	kg	C
Pimiento	Guindilla Vasca	1	300	no. de semillas	C
Pimiento	Habanero	14	4080	no. de semillas	C
Pimiento	Hades	2	3000	no. de semillas	C
Pimiento	Hallo	1	100	no. de semillas	C
Pimiento	Heracles	9	7150	no. de semillas	C
Pimiento	Herminio	1	64 000	no. de semillas	C
Pimiento	Hocico De Buey	2	64	no. de semillas	C
Pimiento	Hyffae	1	12 000	no. de semillas	C
Pimiento	Idilio	1	14 000	no. de semillas	C
Pimiento	Infante	1	1.00	kg	C
Pimiento	Infante	10	38 448	no. de semillas	C
Pimiento	Isidro	1	5000	no. de semillas	C
Pimiento	Italiano	14	1120	no. de semillas	C
Pimiento	Italico	1	0.01	kg	C

Pimiento	Italico	5	44 000	no. de semillas	C
Pimiento	Italress	5	28 000	no. de semillas	C
Pimiento	Jalapeno	1	80	no. de semillas	C
Pimiento	Jaranda	2	1.50	kg	C
Pimiento	Jaranda	2	257 636	no. de semillas	C
Pimiento	Jonas	2	15 304	no. de semillas	C
Pimiento	Jumilla	5	203 000	no. de semillas	C
Pimiento	Kappone	1	2000	no. de semillas	C
Pimiento	Karpex	1	5000	no. de semillas	C
Pimiento	Konya	3	130 000	no. de semillas	C
Pimiento	Lamuyo	1	0.02	kg	B
Pimiento	Lamuyo	1	0.01	kg	C
Pimiento	Lamuyo	2	42 080	no. de semillas	C
Pimiento	Lany	2	40 000	no. de semillas	C
Pimiento	Lapillo	4	29 000	no. de semillas	C
Pimiento	Largo de reus	1	0.60	kg	C
Pimiento	Largo de reus	1	2000	no. de semillas	C
Pimiento	Lazaro	4	8000	no. de semillas	C
Pimiento	Lengua de vaca	3	420	no. de semillas	C
Pimiento	lipari	5	65 000	no. de semillas	C
Pimiento	Macio	1	8000	no. de semillas	C
Pimiento	Maestral	17	399 679	no. de semillas	C
Pimiento	Manolo	18	222 466	no. de semillas	C
Pimiento	Melchor	153	1 268 725	no. de semillas	C
Pimiento	Merkava	1	65 000	no. de semillas	C
Pimiento	Merlot	16	78 000	no. de semillas	C
Pimiento	Mingote	1	25 000	no. de semillas	C
Pimiento	Miyabi	37	119 500	no. de semillas	C
Pimiento	Morron de Conserva 2	1	7600	no. de semillas	C
Pimiento	Murano	3	79 000	no. de semillas	C
Pimiento	Muriel	29	1 035 000	no. de semillas	C
Pimiento	Mustang	1	9000	no. de semillas	C
Pimiento	N32188	1	3000	no. de semillas	C
Pimiento	Naga	1	80	no. de semillas	C
Pimiento	Najerano	1	2.00	kg	C
Pimiento	Najerano	2	113 466	no. de semillas	C
Pimiento	Nirvin	183	698 440	no. de semillas	C
Pimiento	Nora	1	0.01	kg	B
Pimiento	Nora	1	0.10	kg	C
Pimiento	Nora	33	8 531 816	no. de semillas	C
Pimiento	Oaxaca	3	7000	no. de semillas	C
Pimiento	Olimpiakos	29	364 000	no. de semillas	C
Pimiento	Olivencia	1	11 336	no. de semillas	C
Pimiento	Ophelia	2	3000	no. de semillas	C
Pimiento	Orangadya	2	1244	no. de semillas	C
Pimiento	Orange flame	1	6000	no. de semillas	C

Pimiento	Padron	1	0.02	kg	C
Pimiento	Padron	19	41 020	no. de semillas	C
Pimiento	Palermo	299	1 465 300	no. de semillas	C
Pimiento	Pep145	618	51 037	no. de semillas	C
Pimiento	Pep15	206	15 600	no. de semillas	D
Pimiento	Piccante Di Cayenna	1	30 000	no. de semillas	C
Pimiento	Piccante Di Cayenna	1	0.003	kg	C
Pimiento	Pinguita de mono	1	3	no. de semillas	C
Pimiento	Piolin	3	14 000	no. de semillas	D
Pimiento	Piquillo	1	0.01	kg	B
Pimiento	Piquillo	1	30	no. de semillas	B
Pimiento	Piquillo	1	0.05	kg	C
Pimiento	Piquillo	1	114 996	no. de semillas	C
Pimiento	Pissa	1	5000	no. de semillas	C
Pimiento	Plinio	1	300	no. de semillas	C
Pimiento	Plutonio	5	12 000	no. de semillas	C
Pimiento	Prometeo	62	758 000	no. de semillas	C
Pimiento	Quiron	1	2000	no. de semillas	C
Pimiento	Ramiro	2	11 000	no. de semillas	C
Pimiento	Ramonete	2	20 000	no. de semillas	C
Pimiento	Rayo	6	89 000	no. de semillas	C
Pimiento	Red Bull	1	2000	no. de semillas	C
Pimiento	Red Glory	1	0.02	kg	C
Pimiento	Redford	3	23 000	no. de semillas	C
Pimiento	Rialto	1	20 000	no. de semillas	C
Pimiento	Roble	1	3000	no. de semillas	C
Pimiento	Rumbada	1	72 300	no. de semillas	C
Pimiento	SA 7024	1	4000	no. de semillas	C
Pimiento	Salmeron	25	96 000	no. de semillas	C
Pimiento	Samson	3	11 000	no. de semillas	C
Pimiento	Sandro	1	1650	no. de semillas	C
Pimiento	Santa Fe	12	1000	no. de semillas	C
Pimiento	Scotch Bonnet	14	2200	no. de semillas	C
Pimiento	Segura	2	3000	no. de semillas	C
Pimiento	Shadona	1	1000	no. de semillas	C
Pimiento	Shanghai	1	1000	no. de semillas	C
Pimiento	Sinfony	10	319 000	no. de semillas	C
Pimiento	Snacking	4	1272	no. de semillas	C
Pimiento	Sobek	20	39 000	no. de semillas	C
Pimiento	Souleria	18	144 500	no. de semillas	C
Pimiento	Spyker	4	16 000	no. de semillas	C
Pimiento	Starflame	1	3000	no. de semillas	C
Pimiento	Super Chili	1	5000	no. de semillas	C
Pimiento	SV1204	11	74 275	no. de semillas	D
Pimiento	Sweet Bite	26	66 000	no. de semillas	C
Pimiento	Sympathy	12	39 000	no. de semillas	C

Pimiento	Tallante	15	302 000	no. de semillas	C
Pimiento	Tamarin	11	249 000	no. de semillas	C
Pimiento	Tarteso	2	26 000	no. de semillas	C
Pimiento	Tayante	3	13 000	no. de semillas	C
Pimiento	Teson	1	10 000	no. de semillas	C
Pimiento	Thundra	4	6000	no. de semillas	C
Pimiento	Ticino	1	25 000	no. de semillas	C
Pimiento	Tinsena	1	3900	no. de semillas	C
Pimiento	Tirex	1	2000	no. de semillas	C
Pimiento	Tomelloso	3	310 000	no. de semillas	C
Pimiento	TOP146	8	49 000	no. de semillas	C
Pimiento	Top Arnon	28	290 200	no. de semillas	C
Pimiento	Top Arrod	3	53 000	no. de semillas	C
Pimiento	Top Farran	3	50 000	no. de semillas	C
Pimiento	Touareg	1	5500	no. de semillas	D
Pimiento	Tramontana	4	313 000	no. de semillas	C
Pimiento	Traviatta	3	629 000	no. de semillas	C
Pimiento	Utiel	7	344 000	no. de semillas	C
Pimiento	Valroyo	74	109 000	no. de semillas	C
Pimiento	Valero	16	312 000	no. de semillas	C
Pimiento	Veleta	1	450	no. de semillas	C
Pimiento	Velez	17	300 450	no. de semillas	C
Pimiento	Verdejo	3	14 000	no. de semillas	C
Pimiento	Verset	4	112 000	no. de semillas	C
Pimiento	Willy	2	250	no. de semillas	C
Pimiento	WLS 2493	1	6000	no. de semillas	C
Pimiento	WLS 9605	1	2000	no. de semillas	C
Pimiento	WLS-2103	6	4000	no. de semillas	C
Pimiento	WLS-2450	6	5000	no. de semillas	C
Pimiento	WLS-2455	6	3000	no. de semillas	C
Pimiento	WT 9603	1	1000	no. de semillas	C
Pimiento	Xanthi	3	8000	no. de semillas	C
Pimiento	Yellow California Wonder	1	300	no. de semillas	B
Pimiento	Zanetti	1	312	no. de semillas	C
Pimiento	Zohar	14	31 080	no. de semillas	C