Official Journal of the European Union

C 68

English edition

Information and Notices

Volume 66

24 February 2023

Contents

EN

[1] Text with EEA relevance.

([1]) Text with EEA relevance.

II

(Information)

INFORMATION FROM EUROPEAN UNION INSTITUTIONS, BODIES, OFFICES AND AGENCIES

EUROPEAN COMMISSION

COMMISSION NOTICE

Guidance on the identification of the presence of Defeat Devices with regards to emissions of light-duty vehicles approved with Real Driving Emissions (RDE), heavy-duty vehicles and on anti-tampering protection

(2023/C 68/01)

DISCLAIMER

This guidance notice complements Notice C(2017) 352 final, which addressed the presence of defeat devices in pre-RDE light-duty vehicles. It reflects the discussions of the expert meetings of the Forum on Type Approval and Market Surveillance. The meetings involved the Commission services and experts from the Member States.

It is intended to facilitate the implementation of Regulation (EC) No 715/2007 ([1]) *and Regulation (EC) No 595/2009* ([2]) *for light and heavy-duty vehicles respectively. It is itself not legally binding. Any authoritative reading of the law should only be derived from those Regulations and other applicable legal texts or principles, like Commission Regulation (EU) No 2017/1151* ([3]) *and Commission Regulation (EU) No 582/2011* ([4]) *including all their amending acts. While this note seeks to assist authorities and operators by presenting good practices for an effective implementation of the applicable law, only the Court of Justice of the European Union is competent to authoritatively interpret Union legislation.*

1. Introduction

The concept of a defeat device is an integral part of European vehicle emissions legislation. Both the definition and the prohibition (including some exceptions) of defeat devices for light-duty vehicles are clearly spelled out in Regulation (EC) No 715/2007, Articles 3(10) and 5(2). For heavy-duty vehicles this prohibition is prescribed in Regulation (EC) No 595/2009, Article 5(3) (see Annex I).

The compatibility of certain kind of defeat devices has been subject of several requests for a preliminary ruling before the Court of Justice. The Court has addressed this question in case C-693/18, where the Court considered, that the exception to the prohibition on the use of defeat devices must be interpreted strictly ([5]). Furthermore, the Court has decided in cases C-128/20, C-134/20 and C-145/20, that a defeat device which, under normal driving conditions, operated during most of the year in order to protect the engine from damage or accident and ensure the safe operation of the vehicle could not fall within the exception provided for in Article 5(2)(a) of Regulation (EC) No 715/2007 ([6]).

([1]) OJ L 171, 29.6.2007, p. 1.
([2]) OJ L 188, 18.7.2009, p. 1.
([3]) OJ L 175, 7.7.2017, p. 1.
([4]) OJ L 167, 25.6.2011, p. 1.
([5]) Paragraph 112 of the judgement in Case C-693/18.
([6]) Point 2 of the Judgements in cases C 128/20, C 134/20 and C 145/20 of 14 July 2022.

In early 2017, the Commission published a first guidance on Auxiliary Emission Strategies (AES) and Defeat Devices ([7]), with respect to light duty vehicles type approved without a Real Driving Emissions (RDE) tests. That first guidance also included detailed guidance on the evaluation of AES that subsequently became part of the legislation and therefore is not repeated in this document.

The intention of the present document is to set good practices for the detection of illegal defeat devices for both light and heavy-duty vehicles, complementing the first guidance notice, with particular emphasis on vehicles type approved under the Euro 6d and 6d-temp and Euro VI steps A to E.

At the same time, this document also addresses the need to protect vehicles from tampering, by promoting appropriate testing of the emission control systems and testing of the vehicle odometer, as part of market surveillance.

A draft of this document was discussed with the Member States in the FORUM for exchange of information on enforcement and with all stakeholders in the Motor Vehicles Working Group. Comments were received and were taken into account to the extent possible.

PART A: Defeat Devices and AES

2. **Definitions and generic obligations:**

In the case of Light-Duty Vehicles:

The concept of defeat devices in the case of light-duty vehicles is defined in Regulation (EC) No 715/2007, Article 3 (10):

'defeat device' means any element of design which senses temperature, vehicle speed, engine speed (RPM), transmission gear, manifold vacuum or any other parameter for the purpose of activating, modulating, delaying or deactivating the operation of any part of the emission control system, that reduces the effectiveness of the emission control system under conditions which may reasonably be expected to be encountered in normal vehicle operation and use;

The prohibition to use defeat devices and exceptions are laid down in the same Regulation, Article 5(2):

'The use of defeat devices that reduce the effectiveness of emission control systems shall be prohibited. The prohibition shall not apply where:

(a) *the need for the device is justified in terms of protecting the engine against damage or accident and for safe operation of the vehicle;*

(b) *the device does not function beyond the requirements of engine starting;*

or

(c) *the conditions are substantially included in the test procedures for verifying evaporative emissions and average tailpipe emissions.'*

The prohibition needs however to be read together with the rules laid down in Commission Regulation (EU) 2017/1151 for what concerns the use of Auxiliary Emission Strategies.

The relevant definitions are laid down in Regulation (EU) 2017/1151, Article 2:

'43. *"base emission strategy" (hereinafter "BES") means an emission strategy that is active throughout the speed and load operating range of the vehicle unless an auxiliary emission strategy is activated;*

44. *"auxiliary emission strategy" (hereinafter "AES") means an emission strategy that becomes active and replaces or modifies a BES for a specific purpose and in response to a specific set of ambient or operating conditions and only remains operational as long as those conditions exist.*'.

And Article 5 (11):

'*In order for the approval authorities to be able to assess the proper use of AES, taking into account the prohibition of defeat devices contained in Article 5(2) of Regulation (EC) No 715/2007, the manufacturer shall also provide an extended documentation package, as described in Appendix 3a of Annex I to this Regulation.*

([7]) Commission Notice on Guidance on the evaluation of Auxiliary Emission Strategies and the presence of Defeat Devices with regard to the application of Regulation (EC) No 715/2007 on type approval of motor vehicles with respect to emissions from light passenger and commercial vehicles (Euro 5 and Euro 6), C(2017) 352 final.

The extended documentation package shall be identified and dated by the approval authority and kept by that authority for at least 10 years after the approval is granted.

At the request of the manufacturer, the approval authority shall conduct a preliminary assessment of the AES for new vehicle types. In that case, the relevant documentation shall be provided to the type approval authority between 2 and 12 months before the start of the type- approval process.

The approval authority shall make a preliminary assessment on the basis of the extended documentation package, as described in point (b) of Appendix 3a to Annex I, provided by the manufacturer. The approval authority shall make the assessment in accordance with the methodology described in Appendix 3b of Annex I. The approval authority may deviate from that methodology in exceptional and duly justified cases.

The preliminary assessment of the AES for new vehicle types shall remain valid for the purposes of type approval for a period of 18 months. That period may be extended by a further 12 months if the manufacturer provides to the approval authority proof that no new technologies have become accessible in the market that would change the preliminary assessment of the AES.

A list of AES which were deemed non-acceptable by Type Approval Authorities shall be compiled yearly by the Type-Approval Authorities Expert Group (TAAEG) and made available to the public by the Commission.'

According to Annex IIIA of Regulation (EU) 2017/1151, the following applies:

'4.4. *If for a vehicle the collection of ECU data influences the vehicle's emissions or performance the entire PEMS test family to which the vehicle belongs as defined in Appendix 7 shall be considered as non-compliant. Such functionality shall be considered as a "defeat device" as defined in Article 3(10) of Regulation (EC) 715/2007.*'

In the case of Heavy-Duty Vehicles:

For HDV, the concept of defeat strategy is defined in Regulation (EC) No 595/2009, Article 3(8):

' *"defeat strategy" means an emission control strategy that reduces the effectiveness of the emission controls under ambient or engine operating conditions encountered either during normal vehicle operation or outside the type-approval test procedures*';

In the following, the term defeat devices is to be read to include also defeat strategies for HDV. The prohibition to use defeat strategies are laid down in the same Regulation, Article 5(3) of Regulation (EC) No 595/2009:

'*The use of defeat strategies that reduce the effectiveness of emission control equipment shall be prohibited.*'

A substantial difference between the two regulations is that for light-duty vehicles exceptions are placed on the defeat devices, while for heavy duty vehicles, the exceptions are mentioned on the use of Auxiliary Emission Strategies in UNECE Regulation No. 49 ([8]) Revision 6, Annex 10, paragraph 5.1.2:

'*An AES shall not reduce the effectiveness of the emission control relative to a BES under conditions that may reasonably be expected to be encountered in normal vehicle operation and use, unless the AES satisfies one the following specific exceptions:*

(a) *Its operation is substantially included in the applicable type-approval tests, including the off-cycle test procedures provided for in paragraph 6 of Annex VI to this Regulation and the in-service provisions set out in Article 12 of this Regulation* ([9]).

(b) *It is activated for the purposes of protecting the engine and/or vehicle from damage or accident;*

(c) *It is only activated during engine starting or warm up as defined in this annex;*

(d) *Its operation is used to trade-off the control of one type of regulated emissions in order to maintain control of another type of regulated emissions under specific ambient or operating conditions not substantially included in the type approval or certification tests. The overall effect of such an AES shall be to compensate for the effects of extreme ambient conditions in a manner that provides acceptable control of all regulated emissions.*'

([8]) OJ L 171, 24.6.2013, p. 1.

([9]) Part a according to Regulation (EU) No 582/2011 amended by Regulation (EU) No 133/2014, Annex VI point 4.

3. Rationale

3.1. *Defeat Devices in Light-Duty Vehicles*

Tailpipe emissions levels have to remain below the emission limits both in WLTP and RDE tests performed according to the Regulation (EU) 2017/1151. According to the exceptions of the defeat device definition, the prohibition of a defeat device does not apply within the boundary conditions included in the test procedures for emissions. This exception was introduced since the emissions in any regulatory test have to remain in any case below the limits.

Therefore, in vehicles type approved with RDE, while the RDE boundary conditions are wide enough, there is still a high risk of defeat devices in the areas that are not tested, i.e. outside the RDE boundary conditions.

Detecting that a test is being performed and purposefully changing the emission behaviour of a vehicle in order to show lower emissions than what otherwise it would have emitted, should also be considered as a prohibited defeat device. Similarly, an AES that has not been declared and therefore evaluated, would automatically qualify as a defeat device. Therefore, the following mentions of defeat devices might include AES that were not declared and approved. Type approval authorities should provide the corresponding declared and approved AES upon request to the market surveillance authority ([10]), the Commission or other recognised third parties which perform relevant tests.

It is worth noting that checking for defeat devices may also include other types of emissions tests, such as the one for evaporative emissions (Type 4 test).

3.2. *Defeat Devices in Heavy-Duty Vehicles*

The provisions for In-Service Conformity (ISC) in Regulation (EU) No 582/2011 introduce the verification of the conformity of emissions on vehicles using PEMS. The demonstration test conducted at type approval and the ISC tests ensure that the engine emissions will remain below the emission limits, giving confidence that the vehicle would comply with them under all normal conditions of use.

Detecting that a test is being performed and purposefully changing the emission behaviour of a vehicle in order to show lower emissions than what otherwise would have been emitted, should also be considered a prohibited defeat device/strategy in the case of HDV. Similarly, an AES that has not been declared and therefore evaluated, would automatically qualify as a prohibited defeat device/strategy. Therefore, in the following text mentions to defeat devices might include AES that were not declared and approved.

While the permitted testing conditions for PEMS tests are wide enough, there is still a high risk of defeat devices in areas that are not tested, which may still exist outside the ISC-PEMS permissible testing conditions.

4. How to detect a potential defeat device

For the purpose of assisting the Member States authorities with their obligations, the present document introduces a methodology to detect defeat devices. The main objectives are:

— To ensure a consistent vehicles selection and 'defeat devices testing';

— To set out a recommended methodology with the aim to ensure consistency in the testing and assessment between different authorities/laboratories. The said methodology introduces non-regulated testing conditions (or categories of non-regulated testing conditions) which might trigger a defeat device.

4.1. *Vehicle selection*

In line with Regulation (EU) 2018/858 ([11]) and 'when carrying out those tests and inspections', the involved parties (Commission, Authorities) 'should take account of established principles of risk assessment' ([12]), which are discussed within the Forum for the Exchange of Information on Enforcement of the EU legislation on the approval and market surveillance of motor vehicles. For that purpose, several criteria may be considered to build a sample of vehicles to be checked:

([10]) Article 7 (3) of Regulation EU 2018/858.
([11]) OJ L 151, 14.6.2018, p. 1.
([12]) Article 8 (1) of Regulation EU 2018/858.

— Market share: Preferably sales numbers directly available within an EU Member State are to be used. For Light-Duty Vehicles, sales data in most recent CO_2 monitoring database found in https://www.eea.europa.eu/data-and-maps/data/co2-cars-emission-20 and https://www.eea.europa.eu/data-and-maps/data/vans-16 (or its latest yearly version) could be used.

  For both light and heavy-duty vehicles, it is recommended that the testing starts from the vehicles with the higher sale numbers EU-wide. However also vehicles with lower sale numbers need to be tested in order to increase randomness of testing.

— Technical definition: Emissions standards, powertrain technology, fuel and after-treatment could be considered as a second criterion.

— Environmental performance: information on the real-world emissions performance of vehicles may be available from alternative methods, such as remote testing, on-board monitors, etc. Although these pieces of information do not constitute the basis for confirming the presence of a defeat device, they provide an indication for identifying anomalous cases. When established in a robust manner (well defined testing protocols, large number of vehicles tested according to the same protocol), they might constitute a good basis to establish the environmental performance of the vehicles, and could be used to select vehicles for further testing.

Several techniques and data sources might be used to establish the possible environmental performance of vehicles. Two of them are recommended and briefly presented below:

The following techniques are recommended:

— Remote fleet monitoring with on-board sensors (e.g. NOx, engine) also referred to as 'Simplified Emissions Measurement Systems' (SEMS). This option might represent an intermediate way to correlate high emissions with engine and vehicle operating parameters, but the data evaluation strategies remain to be defined.

— Remote Sensing Devices (RSD) monitor many vehicles at a fixed location or with mobile unit (chase test). The RSD data need to be used in conjunction with an access to registration databases to determine the relationship with the vehicle type and its applicable emissions standard. Conclusive information is obtained once a significant number of vehicles of the same type are found to be high emitters.

To make such data available, a Joint Action on Remote Sensing and Risk Assessment for Emission Compliance has been launched, as an initiative of the EU Member States Market Surveillance and Type Approval Authorities under the EU Forum for Exchange of Information on Enforcement. Research projects CARES ([13]) and NEMO ([14]) developed user friendly and accurate remote monitoring systems for emissions. The objective of this action will be to develop a methodology to gather and to share vehicle emissions data from RSD and other techniques, with a view to support the risk assessment methodology for vehicle type selection.

Other techniques might be considered to identify the highest emitters provided that the vehicle environmental performance is assessed under similar testing conditions (e.g. testing vehicles in a laboratory under driving cycles and/or conditions that differ from the regulatory test).

The vehicle information required by the legislation ([15]) needs to be made available to all relevant parties (Member States, Technical Services, third parties and the Commission) in order to allow testing.

4.2. ***Testing Methodology for Defeat Devices and Evaluation of results***

4.2.1. *Introduction*

The methodology introduced in this section will be subject to a regular review by the Forum for the Exchange of Information on Enforcement of the EU legislation on the approval and market surveillance of motor vehicles. Using the latest emissions data collected by the participating authorities, the review will assess the suitability of the emissions thresholds introduced in paragraph 4.2.3.1.

([13]) CARES | City Air Remote Emission Sensing (cares-project.eu)
([14]) Project | Nemo (nemo-cities.eu)
([15]) For Light-Duty Vehicles, according to Article 9 of Regulation (EU) 2017/1151 in conjunction with Appendix 1 of Annex II to that Regulation.
For Heavy-Duty Engines, according to Article 12 Regulation (EU) No 582/2011 in conjunction with Annex II to that Regulation.

The following includes various options for testing and not all methods shown below need to be applied on every test vehicle. The competent authority or recognised third party should decide case by case which methods are best suited, based on an appropriate risk assessment which takes into account possible non-compliance, the likelihood of its occurrence, and other possible indicators, like the severity of the occurrence.

The search for defeat devices (DD) could include two distinct cases:

Case A) 'Boundary detection DD": devices/strategies that use the currently regulated test boundaries or surrogates thereof as triggers (such as ambient temperature, altitude, trip duration, fuel consumed and driving dynamics ranges) or;

Case B) 'Test detection DD': devices/strategies triggered by the presence of test equipment (e.g. backpressure increase at the tailpipe, signals on rear ultrasonic sensors, connection of a data recorder on the OBD port) or the vehicle localization (i.e. anything informing the vehicle that it is being tested on road for tailpipe emissions). These 'Test detection DD' apply primarily to on-road tests with PEMS, since vehicles tested in the laboratory usually need to use a special 'chassis dynamometer mode' in order to allow emissions testing without triggering safety devices etc.

The approach followed for both cases is illustrated in the following table. Though 'Boundary Detection' represents the main focus, investigations to detect 'Test Detection' cannot be neglected as the risk to see such strategies could increase over time.

Table 1

Distinct cases of Defeat Devices

	Case A Boundary detection	Case B Test detection
Test equipment	According to the regulatory requirements (Lab, PEMS)	Limited interference to the vehicle (no connection to the vehicle OBD port, possibly no exhaust flow meter) such as: car plume chasing, SEMS.
Selection of test conditions	According to paragraph 4.2.2.1	In addition to Case A possibility to conduct road tests at different locations would mitigate the risk of a strategy making use of the vehicle position.
Assessment of emissions data	According to paragraph 4.2.3	Ad-hoc

4.2.2. *Testing for Case A (Boundary detection)*

4.2.2.1. Selection of testing conditions (modalities)

For all cases it is necessary as a minimum to include testing the vehicle with the regulatory methodologies. This is an important step in order to make sure that the vehicle/engine is free of malfunctioning, bad maintenance or other similar issues, which would unduly increase the level of emissions.

To detect the presence of defeat devices according to Case A, it is necessary that the vehicles are tested under variations of the standard testing conditions referred to as *'modalities'*. The set of modalities is not fixed but instead kept open due to the need to detect specific technology behaviours in response to a complex set of parameters and the need to keep a non-predictable character.

These general principles are illustrated in Table 2 for light and heavy-duty vehicles ([16]).

([16]) The table is non-exhaustive. It shall be interpreted depending on the specific conditions relating to a specific type approval character.

Table 2

Emissions standards, regulatory emissions tests and possible modalities for case A

Emissions standards	Applicable regulatory emissions test(s)	Possible modalities for DD detection
Light-Duty Vehicles		
Euro 5 Euro 6b,c	NEDC according to UNECE R83 ([17])	Modified NEDC, other cycles, elimination of all recognizable conditions typical of bench testing (open bonnet, wheels not rotating, lack of GPS signal or of wheel movement, etc), auxiliaries on, on-road tests
Euro 6d-Temp Euro 6d	WLTP according to EU Reg. 2017/1151 RDE tests according to EU Reg. 2018/1832	Modified WLTP, on-road WLTP for comparison, other cycles, elimination of all recognizable conditions typical of bench testing (open bonnet, wheels not rotating, lack of GPS signal or of movement, etc), auxiliaries on, On-road tests outside the RDE 'boundary conditions' (e.g. outside RDE altitude and/or temperature and/or driving dynamics ranges)
Heavy-Duty Engines/Vehicles		
Euro VI	WHTC in case of engines testing and PEMS test of whole vehicles according to Commission Regulation (EU) No 582/2011 ([18])	On-road or laboratory vehicle tests (e.g. equivalent WHVC with phases in different order) outside the ISC 'permissible conditions' (e.g. outside altitude and/or temperature)

By modifying one or several of the test parameters with respect to the emissions test, one might trigger one or more of the following cases, which may result in increased emissions:

— A defeat device.

— An AES.

— A modified physical response of the engine and/or emissions control technologies, naturally caused by the change of conditions (e.g. ambient temperature affecting the warm-up of components) but not controlled by software in response to sensed signals/parameters ([19]).

The 'modalities' are sets of testing conditions under which increases in emissions and therefore devices/strategies might be observed. For tests lasting between 30 minutes (typical laboratory duration) and a maximum of 2 hours (light-duty) or even 3 hours (heavy-duty), the effect of an emissions increase caused by an AES can be observed if:

— The AES/DD is activated for a sufficient duration.

— The corresponding emissions increase is not statistically diluted over the total emissions of the entire test.

([17]) https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A42019X0253&qid=1658915552410

([18]) In this case, the PEMS test is sufficient to demonstrate the engine compliance with the WHTC requirements and the extraction of the engine can be avoided.

([19]) Note that even in that case, the emissions would still need to respect the limits.

It is therefore recommended to test using the 'best available modalities': the shorter, the better to detect short AES activations, provided that the minimum modality duration is in line with the recommended practice from paragraph 4.2. Modalities with long durations may also be considered, e.g. for situations where the engine load remains elevated for a long period (e.g. conditions with high payload and/or climbing and/or motorway driving).

4.2.2.2. Categorisation of modalities

To facilitate the assessment of the emissions obtained for various modalities, categories were created and associated with the thresholds in paragraph 4.2.3.1. This applies only to case A (boundary detection).

— Category 1 includes all the regulated tests such as Cold WLTP, cold and hot RDE urban and total tests, regulated ISC-HDV, and for which emissions limits apply. This category also includes tests with limited changes when compared to the regulated conditions (e.g. AC on during a cold WLTP, hot WLTP, cold and hot WHVC): in this case, the parameters outside the regulated testing conditions should not lead to a significant change in the physical response of the engine system).

— Category 2 includes non-regulated tests whose distances are in the order of magnitude of the distances from the regulatory tests.

— Category 3 includes all other tests not falling within categories 1 and 2 or allowing for 'surprise testing'. This category also includes the tests to determine whether the vehicle adapts its strategy during tailpipe emissions tests (case B).

When defining a modality and attributing it to one of the categories, the responsible authority should carefully consider the following characteristics:

— The modality driven distance (or duration): the minimum distance (or duration) should be in line with the values set by the regulated conditions. For light-duty vehicles, the minimum recommended distance is 16 km (i.e. the minimum regulated distance of an RDE test). For heavy-duty vehicles, the minimum recommended duration needs to correspond to the work of the engine on the WHTC cycle. For hybrids vehicles (e.g. PHEVs), the share of EV driving should be considered.

— Shorter modalities may be used but in that case the thresholds in paragraph 4.2.3.1 would not apply and ad-hoc evaluation strategies should be adopted (see paragraph 4.2.3.2);

— The vehicle conditioning, i.e. if the modality corresponds to a test for which the vehicle is 'cold' according to the definition of the applicable Regulation (example: first phase of the WLTP).

Table 3

Examples of testing modalities within the different categories

Category	Light-Duty	Heavy-Duty
1	— WLTP — WLTP with an open door bonnet, rolled-down windows, lights and AC on,.... — RDE compliant routes (total or urban phases) under moderate or extended conditions	— ISC-PEMS compliant routes for whole vehicle testing — WHTC engine tests
2	— WLTP on a test track — WLTP in the laboratory variations in the ambient temperature, repetition of selected phases of the test cycle — WLTP with repeated or re-ordered phases, all at any ambient temperature between -7°C and +35°C. — Other laboratory cycles, as complete cycles or phases (e.g. CADC ([1]), BAB ([2]), TfL ([3])) — RDE non-compliant tests ([4]), e.g ([5]).: — Excess of driving dynamics. — Excess of cumulative altitude gain. — Specific tests addressing driving conditions which cannot be covered with an RDE test, e. g. long motorway route. — Tests outside the RDE boundary conditions for ambient temperature and/or altitude.	— WHVC laboratory tests for vehicle testing — Other laboratory cycles. (i.e. several WHVC with changes in the order of the phases; e.g. U/R/M/M/R/U ([6])) — ISC-PEMS routes resulting as non-compliant from e.g.: — Low payload; — Specific tests addressing driving conditions which cannot be covered with an ISC-PEMS test: short urban route, long motorway route; — Tests outside the ISC-PEMS permissible conditions for ambient temperature and/or altitude.
3	Modified evaporative emissions test, OBD functional checks, plume chasing, RDE with and without connection to OBD or SEMS	OBD functional checks, plume chasing, PEMS tests without connection to OBD

([1]) CADC: Common Artemis Driving Cycles.
([2]) BAB: ADAC Highway Cycle (BAB 130).
([3]) TfL : Transport for London Cycle.
([4]) Having at least a minimum distance of 16 km but not compliant for other requirements.
([5]) Nota Bene: The proposed list of modalities is not exhaustive and the exact testing condition will depend on the driving situations encountered in real life.
([6]) The three phases of the test are: U is for Urban, R is for Rural and M is for Motorway.

NB1: Examples of a test matrices are given in Annex III.

NB2: The classification of the tests within the different categories is the responsibility of the TAA and needs to be supported by the AES declarations delivered at type approval.

4.2.3. *Evaluation of the test results for Case A (Boundary detection)*

The vehicle tailpipe emissions over the entire test (or section of the test) should be expressed as 'Emissions Ratios' (ER). The ER is defined as the vehicle emissions during the test divided by the applicable emissions limit ([20]).

For light-duty vehicles, the ER is to be calculated considering the provisions of Regulation (EU) 2017/1151 as they applied at the time of type approval. For the modalities under non-regulated emissions (i.e. within categories 2 and 3 defined in paragraph 4.2.2.2), the corrections for extended conditions and/or CO_2 are not applicable.

For heavy-duty vehicles, the ER is to be calculated considering the provisions of Regulation (EU) No 582/2011 as they applied at the time of type approval.

For the pollutants without conformity factors and unregulated under real driving conditions (e.g. CO for RDE-LDV tests), the on-road emissions need to be divided by the applicable limit. In such a case, the calculated ER is not used to verify the vehicle compliance but rather to assess whether the emissions are anomalous according to paragraphs 4.2.3.1 and 4.2.3.2.

Table 4

Numerical examples #1 for ER calculation : Light-duty

	Measured emissions	Applicable emissions limit (Euro 6, positive ignition)	PEMS Conformity Factor	ER Calculation
Laboratory (Bag)	NOx 35 mg/km	60 mg/km	NA	ER = 35 / 60 = 0,58
Laboratory (PEMS for Euro 6d vehicle)	NOx 35 mg/km	60 mg/km	1,43	ER = 35 / (60 x 1,43) = 0,41
On-road (PEMS for Euro 6d vehicle)	NOx 35 mg/km	60 mg/km	1,43	ER = 35 / (60 x 1,43) = 0,41

Table 5

Numerical examples #2 : Heavy-duty

	Measured NOx emissions	Applicable emissions limit (Euro VI, compression ignition)	PEMS-ISC Conformity Factor	ER Calculation
On-road (PEMS for Euro VI vehicles)	125 mg/kWh	460 mg/kWh	1,5	ER = 125 / (460 x 1,5) = 0,18

4.2.3.1. Method A: ER versus emissions thresholds (Categories 1 & 2)

In principle, the main goal for AES provisions is to allow for vehicle/engine protection under exceptional and extreme operating circumstances, and only if alternative method/technologies that do not require the AES ([21]) are not available. Therefore, the acceptance of an AES by a type approval authority should carefully consider the environmental impact and the frequency of the AES. Both the frequency and environmental impact of an AES should be limited to the maximum extent possible.

([20]) The applicable emissions limits for on-road emissions tests includes the additional margins to account for the PEMS measurement uncertainty as prescribed in the relevant Regulations.

([21]) such as preventive maintenance or a flow sensor to avoid and detect EGR fouling.

This method A is by no means an encouragement to exceed the emissions limits, even under non-regulated conditions. Its primary objective is to detect the presence of AESs and to prioritize investigations. The thresholds proposed below are based on the lessons learnt using the test data from vehicles of different emissions standards and technologies. Emissions ratios below these thresholds and above the applicable limits (corresponding to a threshold value of 1) may still be caused by illegal strategies. For vehicles type approved by earlier versions of Regulation (EC) No 715/2007 the thresholds contained in the previous Guidance note apply.

Table 6

Emissions Thresholds Euro 6d-TEMP and 6d (LDV) / Euro VI (HDV)

	Category 1	Category 2
Threshold 1	1,05	1,3
Threshold 2	1,3	2,5

Thresholds apply to all regulated pollutants, with the exception of THC (when not measured with PEMS for light-duty vehicles).

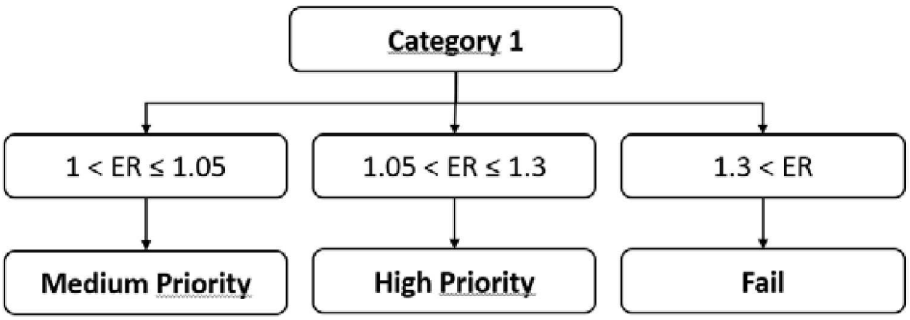
4.2.3.2. Method B: ER Relative analysis (Categories 2 and 3)

In addition to the analysis using the thresholds from paragraph 4.2.3.1, the ER values may be compared to the values obtained for properly functioning vehicles for the same pollutants and modalities.

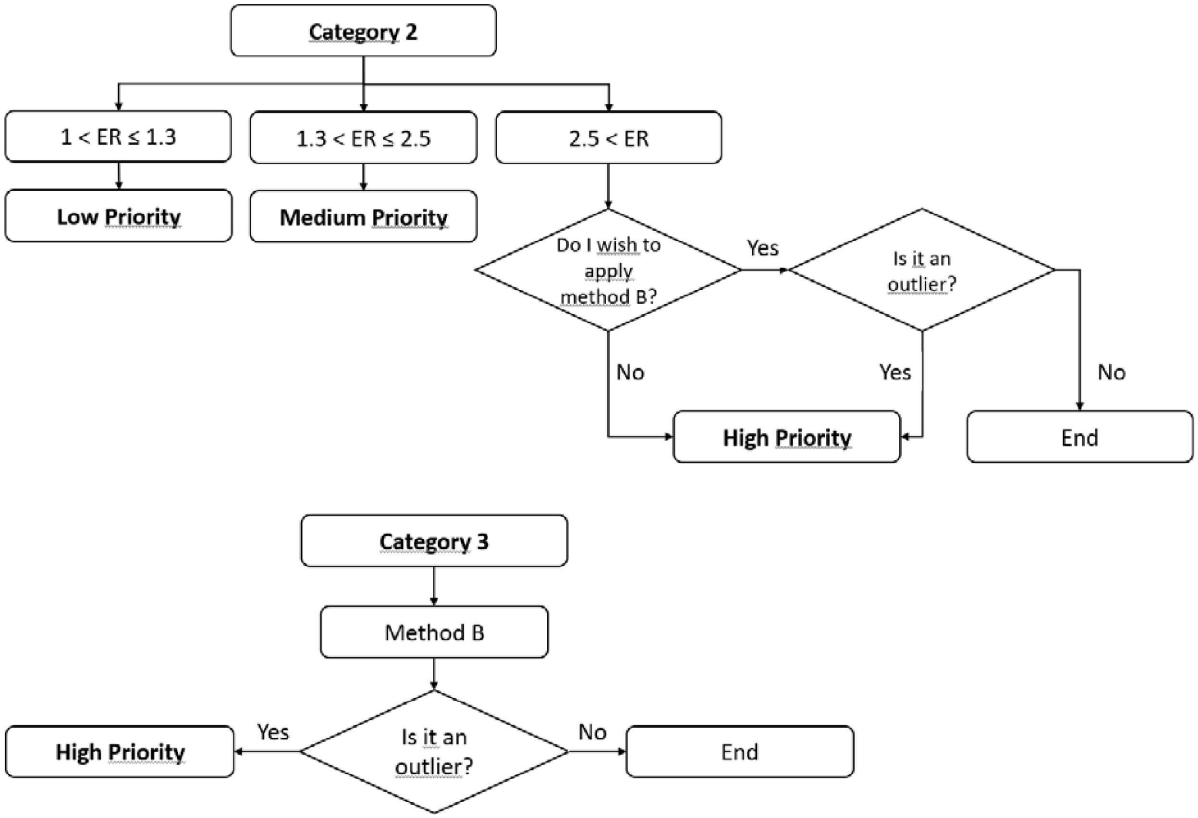
Using this method, a vehicle may be classified as 'statistical outlier' as soon as its emissions deviate from the ones observed for its technology group under the same conditions. This approach requires a significant amount of 'historical' emissions data from different vehicles.

The method should improve over time as the 'picture' for correctly functioning vehicles gets clearer with the increasing number of tests. Currently, it may be applied using the data collected for light-duty Euro 6d-TEMP and 6d vehicles, for instance using the data presented in the JRC 2019 annual report on emissions ([22]).

4.2.3.3. Decision diagrams



([22]) Joint Research Centre 2019 light-duty vehicles emissions testing - https://ec.europa.eu/jrc/en/publication/eur-scientific-and-technical-research-reports/joint-research-centre-2019-light-duty-vehicles-emissions-testing.



4.2.4. *General approach for Case B (Test Detection)*

In this case, devices/strategies are triggered by the PEMS test equipment or the vehicle localization. It is therefore recommended to vary these parameters using the best available practices.

For the detection of the PEMS test equipment: the vehicle should preferably be tested under conditions (e.g. a test track using the cycles suggested in paragraph 4.2.2.1) exhibiting a sufficient degree of repeatability. This should allow the comparison between tests conducted using standard PEMS equipment (with EFM and OBD connection) and measurement equipment totally independent from the vehicle (i.e. no EFM and OBD connection, possibly with simpler equipment such as SEMS).

For the detection of the vehicle localization, conducting RDE compliant tests at different locations and frequently varying the locations should significantly mitigate the risk of having such strategies.

4.2.5. *Complementary analysis*

4.2.5.1. Detailed Emissions analysis

In cases where the test results are close to the emission thresholds or in order to understand better what triggers an AES, the test results might also be analysed by subsets, e.g. phases of the laboratory driving cycles, on-road driving conditions (urban, rural, motorway).

As example for this analysis, the emissions ratios between the urban and motorway driving conditions can highlight different emissions strategies and their respective efficiency, as the engine load is significantly different between these two conditions. For this type of complementary analysis, the results cannot be checked against the method A introduced earlier in the document. They should be analysed in a relative manner, i.e. comparing the results to the best or worst cases obtained for the same fuel, emissions standard and/or emissions control technologies.

4.2.5.2. Analysis of Engine Control Module (ECM)

In case of suspicious test results, or if there are indications for the use of defeat devices, suspicion may be substantiated or invalidated by software analysis. The disclosure of the engine control module (ECM) software and the functional framework/Software documentation is requested together with the complete set of A2L and Hex-Files which declare the actual applied variable and data values on the ECM from the manufacturer. The ECM software is put under investigation concerning functions that may cause unauthorized modulation or shutdown of emission reducing systems.

Possible defeat devices can be verified in RDE measurements by checking emission control system performance under conditions previously detected by software analyses (e.g. re-entry of catalyst heat-up, variation of ambient temperature, etc.) Results from software analyses should be verified in any case by additional physical tests with PEMS or other suitable measurement tools. Findings resulting from these tests can also lead to further necessary software analyses.

4.3. ***Review of testing modalities and evaluation strategies***

The testing modalities (introduced in paragraph 4.2), the thresholds recommended to trigger investigations (4.2.3.1) and/or the emissions data obtained for various modalities and which may be used for the relative analysis (4.2.3.2) should not be kept fixed but will be subject to an annual review and update by the European Commission Joint Research Centre (JRC).

4.4. ***Non-acceptable Auxiliary Emission Strategies (AES)***

The AES included in the table 7 below are currently considered as non-acceptable by the Commission due to high increase in emissions or the existence of better technologies to avoid damage. In line with the recent Court judgements the manufacturer is under the obligation to apply technical devices capable of complying with the limits of Regulation (EU) 2017/1151 ([23]) and the need for a defeat device could only exist, where at the time of type approval no other technical solution made it possible to avoid immediate risks of damage or accident to the engine ([24]). Further evidence can be found in Annex IV.

Only with appropriate substantiation of the necessity according to the methodologies described in Regulation (EU) 2017/1151 or Regulation (EU) No 582/2011 and in exceptional cases only, can the AES in this list be considered appropriate by the Type Approval Authority.

It is expected that this list will be further updated with new cases as these appear, taking into account the technical information provided by national authorities as derived from their own experience and in order to reflect technical progress.

Table 7

Examples of non-acceptable AES ([25])

AES	Observed behaviour
EGR or emissions control reduced or deactivated beyond what is described ([1]) in the BES upon hot engine start	Higher emissions in hot start than in cold start
EGR reduced or deactivated beyond what is described ([1]) in the BES at ambient temperatures above -4 °C ([2])	Higher emissions at the lower end of 'thermal window' where EGR rate might decrease in order to avoid condensation and/or sooting
EGR reduced or deactivated beyond what is described ([1]) in the BES at high ambient temperatures	Higher emissions at the higher end of 'thermal window' where EGR rate might decrease in order to avoid overheating of the engine
Parameters that are not directly linked with a physical phenomenon that might require the use of an AES, such as timer, RPM, vehicle speed, engine torque, fuel consumption, etc…	Using a proxy that is not directly linked with a natural phenomenon (i.e. high vehicle speed, or ambient temperature used to reduce the efficiency of an EGR or SCR system, or turn-off EGR in order to avoid condensation)

([23]) See para 79 in case C-134/20.
([24]) See para 69 in case C-128/20.
([25]) For type approvals granted following the publication of this document.

Reactant dosing modification during the inducement period	The reactant (AdBlue) dosing is diminished or stopped during the inducement period resulting in higher emissions than during the BES without any plausible justification
Gasoline fuel enrichment	Fuel enrichment which may be used for overheating protection at high engine speed. This results in increased CO emissions under dynamic driving conditions.

([1]) As described in the Extended Documentation Package.
([2]) As long as it is not compensated by other emissions control system/s.

PART B: Anti-tampering protection

5. **Odometer and emission control systems tampering protection**

Tampering ([26]) of emission control systems with the goal to remove them or modify their use and worsen the emission performance of the vehicle is expressly prohibited under the current regulations ([27]) .

Article 3, point 4 and 5 and Annex I, Section 2.3 on provisions for electronic system security of Regulation (EU) 2017/1151 further requires that manufacturers install systems to deter modification of emission control systems and the odometer in light duty vehicles. Similar provisions are included in Regulation (EU) No 582/2011, Article 3, point 8 and Annex X, point 2.1 for heavy duty vehicles.

Ample evidence has shown that tampering of emission control systems happens in all types of motor vehicles ([28]), ([29]), ([30]). The most evident reason for this practice has been the economic gain for the vehicle user that does not have to pay for the reagent or substitute a faulty particle filter, other reasons are the increase of power or the reduction of fuel consumption. Similar tampering occurs regularly also for odometer ([31]), ([32]), ([33]), ([34]) also for economic gain by artificially presenting a vehicle as newer. A JRC report on 'Vehicles Odometer and Emission Control Systems: Digital Tampering and Countermeasures' ([35]) detailed possible ways forward to eliminate digital tampering which are in need of further development. It is therefore important that the correct application of the anti-tampering measures taken by the manufacturers are already checked during market surveillance with simple tests.

5.1. ***Proposed methodology for checking compliance with anti-tampering requirements***[28]

Methodology for emission control systems

In order to confirm that appropriate anti-tampering protection against manipulation of the emission control systems is installed by the manufacturer, it is important that the laboratory attempts to perform a manipulation of the emission control system, by using at least one of the systems for tampering of emission controls available in the market for each vehicle tested.

If the manipulation is feasible then the vehicle does not comply with the security of electronic systems provision required in Regulation (EU) 2017/1151 or Regulation (EU) No 582/2011, since the vehicle can be tampered with.

The market surveillance authorities should attempt to use different systems (such as AdBlue killers, removal of DPFs, EGR and TWC physical and electronic tampering, etc.) for tampering emission controls to address all possible tampering possibilities, each year. It is appropriate to include the findings in ICSMS, publish them and discuss them in the Forum and make them public.

([26]) 'tampering' means inactivation, adjustment or modification of the vehicle emissions control or propulsion system, including any software or other logical control elements of those systems, that has the effect, whether intended or not, of worsening the emissions performance of the vehicle.
([27]) Article 7 of Regulation (EC) No 595/2009.
([28]) Status Report from Swiss heavy-duty truck controls, Informal document GRPE-75-06, June 2017.
([29]) ACEA Adblue Emulator Workshop, 5 Dec 2017.
([30]) Investigation of NOx manipulation in heavy-duty vehicles, Danish Road Safety Agency, 2018.
([31]) Research for TRAN Committee – Odometer tampering: measures to prevent it. Study 2017.
([32]) https://www.fiaregion1.com/mileage-fraud/
([33]) https://unece.org/DAM/trans/doc/2015/wp29grsg/GRSG-108-37e.pdf
([34]) Tachomanipulation bei Gebrauchtwagen erkennen | ADAC
([35]) https://circabc.europa.eu/d/a/workspace/SpacesStore/079d3ad8-7121-4c8b-bb57-f5ba13c4407c/JRC%20Vehicles%20Odometer%20and%20Emission%20Control%20System%20Digital%20Tampering.pdf

Alternatively, the laboratory may develop its own appropriate checks for testing that the emission control systems are adequately protected, such as software analysis, or other more complex system security checks.

Methodology for odometer tampering

In order to confirm that appropriate anti-tampering protection against manipulation of the odometer is installed by the manufacturer, it is best practice for the laboratory to attempt to perform a manipulation of the odometer, by using one of the relevant tools available in the market. If the manipulation is successful then the vehicle does not comply with the security of electronic systems provision as required in Regulation (EU) 2017/1151, and should be recalled for a software update eliminating the weakness allowing the tampering.

Market surveillance authorities should report the findings in ICSMS ([36]), and discuss them in the Forum. Such reports should be made public.

([36]) Article 12 (1) of Regulation EU 2018/858.

ANNEX I

AES/BES and Defeat Device clauses (before RDE3 and Step E)

	Light Duty Vehicles	Heavy Duty Vehicles
	Regulation (EC) No 715/2007	**Regulation (EC) No 595/2009**
Definition	'defeat device' as defined in Article 3 (10)	'defeat strategy' as defined in Article 3 (8)
Requirements	Prohibition to use 'defeat devices' as regulated in Article 5 (2)	Prohibition to use 'defeat strategies' as regulated in Article 5 (3)
	Implementing Regulation EC (No) 692/2008 as amended by Regulation (EU) 2016/646	**Commission Regulation (EU) No 582/2011**
AES/BES	AES and BES as defined in Article 2 (43) and (44)	AES and BES as defined in Article 2 (24) and (25)
Extended Documentation Package	Article 5 (11)	Appendix 11 of Annex I
		UNECE Reg. 49 Item (a) is according interpretation of UNECE Reg 49 provided by Regulation (EU) No 582/2011 amended by Regulation (EU) No 133/2014, Annex VI point 4
		Requirements for Auxiliary Emission Strategies (AES) Annex 10 point 5.1.2 of UNECE Reg 49 in conjunction with Annex VI point 4 to Regulation (EU) No 582/2011

ANNEX II

AES/BES and Defeat Device clauses following RDE3 (e.g. 2017/1154) and Step E for HDV

	Light Duty Vehicles	Heavy Duty Vehicles
	Regulation (EC) No 715/2007	**Regulation (EC) No 595/2009**
Definition	'defeat device' as defined in Article 3 (10)	'defeat strategy' as defined in Article 3 (8)
Requirements	Prohibition to use 'defeat devices' as regulated in Article 5 (2)	Prohibition to use 'defeat strategies' as regulated in Article 5 (3)
	Implementing Regulation (EU) No 2017/1151	**Implementing Regulation (EU) No 582/2011**
AES/BES	AES and BES as defined in Article 2 (43) and (44)	AES and BES as defined in Article 2 (24) and (25)
		UNECE Reg. 49 Item (a) is according interpretation of UNECE Reg. 49 provided by Regulation (EU) No 582/2011 amended by Regulation (EU) No 133/2014, Annex VI point 4
		Requirements for Auxiliary Emission Strategies (AES) Annex 10 point 5.1.2 of UNECE Reg 49 in conjunction with Annex VI point 4 to Regulation (EU) No 582/2011
Extended Documentation Package	Appendix 3a of Annex I to Regulation (EU) 2017/1151	Appendix 11 of Annex I to Regulation (EU) No 582/2011
Methodology for evaluating AES	Appendix 3b of Annex I to Regulation (EU) 2017/1151, amended by Regulation (EU) 2018/1832	Appendix 2 of Annex VI to Regulation (EU) No 582/2011, amended by Regulation (EU) 2019/1939

ANNEX III

Example of test matrix for DD and AES (Euro 6d-TEMP/6d Light-Duty Vehicle)

Test	Parameter modified / Standard test (Type 1 or 1a)	No engine load increase	Low ambient temperatures	Hot Start	Engine loads > Type 1
Regulatory tests					
Type 1 (WLTP) - Standard		X	X	X	X
Type 1a RDE Compliant routes - Standard			(X)		X
Modalities for DD Detection					
Type 1 with vehicle systems not affecting the engine load	Vehicle systems (bonnet, doors, windows,...)	X			
Type 1 Hot (Back to back following the standard test)	Vehicle conditioning			X	
RDE Non-Compliant routes	Cumulative altitude gain, route composition, driving dynamics, payload, temperature below -7 °C or above 35 °C, altitude greater than 1 300 m				X

ANNEX IV

References for non-acceptable AES

Reference	Section	AES concerned
2015 - US-EPA Notice of Violation (Washington, DC: United States Environmental Protection Agency) (www.epa.gov/sites/production/files/2015-10/documents/vw-nov-caa-09-18-15.pdf/)		
2016 - Bundesministeriums für Verkehr und digitale Infrastruktur (BMVI), Bericht der Untersuchungskommission Volkswagen Technical Report (www.bmvi.de/SharedDocs/DE/Anlage/VerkehrUndMobilitaet/Strasse/berichtuntersuchungskommission-volkswagen.pdf)	Page 119 - 'calibrations that reduce emission control effectiveness at colder ambient temperatures are defeat devices'	
2016 - UK Department for Transport 2016 Vehicle emissions testing programme Technical Report (UK Department for Transport) (www.gov.uk/government/uploads/ system/uploads/attachment_data/file/518437/vehicleemissions-testing-programme.pdf)		
2017 JRC Annual Report – Pilot Activity Clairotte, M., Valverde, V., Bonnel, P., Giechaskiel, B., Carriero, M., Otura, M., Fontaras, G., Pavlovic, J., Martini, G., Krasenbrink, A., Suarez-Bertoa, R., 2018. Joint Research Centre 2017 light-duty vehicles emissions testing EUR 29302EN, 1–90. https://doi.org/10.2760/5844	Section 5.3.2 Section 5.3.3 Section 5.4.2	Timer/conditioning Thermal window Gasoline fuel enrichment
2018 JRC Annual Report – Pilot Activity Valverde, V., Clairotte, M., Bonnel, P., Giechaskiel, B., Carriero, M., Otura, M., Gruening, C., Fontaras, G., Pavlovic, J., Martini, G., Suarez-Bertoa, R., Krasenbrink, A., 2019. Joint Research Centre 2018 light-duty vehicles emissions testing EUR 29897EN, 1–118. https://doi.org/10.2760/289100	Section 5.4.3	Gasoline fuel enrichment
2019 JRC Annual Report – Pilot Activity Clairotte, M., Valverde, V., Bonnel, P., Gruening, C., Pavlovic, J., Manara, D., Loos, R., Giechaskiel, B., Carriero, M., Otura, M., Cotogno, G., Fontaras, G., Suarez-Bertoa, R., Martini, G., Krasenbrink, A., 2020. Joint Research Centre 2019 light-duty vehicles emissions testing EUR 30482EN, 1–126. https://doi.org/10.2760/90664	Section 5.1.1 Section 5.1.2	Lambda management? Lambda management?
2020-2021 JRC Annual Report – Market Surveillance Activity Bonnel, P., Clairotte, M., Cotogno, G., Gruening, C., Loos, R., Manara, D., Melas, A.D., Selleri, T., Tutuianu, M., Valverde, V., Forloni, F., Giechaskiel, B., Carriero, M., Otura, M., Pavlovic, J., Suarez-Bertoa, R., Martini, G., Krasenbrink, A., 2022. European Market Surveillance of Motor Vehicles - Results of the 2020-2021 European Commisison Vehicle Emissions Testing Programme EUR 31030EN, 1–117. https://doi.org/10.2760/59856	Section 4.3.8 Section 4.3.8	Thermal window Gasoline fuel enrichment

Report by the 'Volkswagen' Commission of Inquiry, Federal Ministry of Transport and Digital Infrastructure, 2016. https://www.kba.de/DE/Themen/Marktueberwachung/Abgasthematik/first_report_vw_c_of_i_nox.pdf?__blob=publicationFile&v=1	Section D	All when occurring during 'normal-use' of the vehicle
Vehicle emissions Testing Programme, UK Department of Transport, 2016 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/548148/vehicle-emissions-testing-programme-web.pdf	Section 5	EGR reduced or deactivated beyond what is allowed in the BES at high ambient temperatures
TNO Report 2017 R10862 Assessment of risks for elevated NOx emissions of diesel vehicles outside the boundaries of RDE - Identifying relevant driving and vehicle conditions and possible abatement measures, 2017	Section 3.2	EGR reduced or deactivated beyond what is allowed in the BES at high ambient temperatures
Contag, M., Li, G., Pawlowski, A., Domke, F., Levchenko, K., Holz, T., Savage, S., 2017. How They Did It: An Analysis of Emission Defeat Devices in Modern Automobiles. IEEE, pp. 231–250. https://doi.org/10.1109/SP.2017.66	Section C (VW DD case) Section D (Fiat DD case)	EGR reduced or deactivated beyond what is allowed in the BES at high ambient temperatures Parameters that are not linked with a physical phenomenon that might require the use of an AES: timer

IV

(Notices)

NOTICES FROM EUROPEAN UNION INSTITUTIONS, BODIES, OFFICES AND AGENCIES

EUROPEAN COMMISSION

Euro exchange rates [1]

23 February 2023

(2023/C 68/02)

1 euro =

	Currency	Exchange rate		Currency	Exchange rate
USD	US dollar	1,0616	CAD	Canadian dollar	1,4366
JPY	Japanese yen	143,32	HKD	Hong Kong dollar	8,3291
DKK	Danish krone	7,4429	NZD	New Zealand dollar	1,7039
GBP	Pound sterling	0,88140	SGD	Singapore dollar	1,4249
SEK	Swedish krona	11,0579	KRW	South Korean won	1 376,59
CHF	Swiss franc	0,9892	ZAR	South African rand	19,4076
ISK	Iceland króna	152,70	CNY	Chinese yuan renminbi	7,3227
NOK	Norwegian krone	10,9545	IDR	Indonesian rupiah	16 141,05
BGN	Bulgarian lev	1,9558	MYR	Malaysian ringgit	4,7071
CZK	Czech koruna	23,686	PHP	Philippine peso	58,351
HUF	Hungarian forint	381,43	RUB	Russian rouble	
PLN	Polish zloty	4,7438	THB	Thai baht	36,848
RON	Romanian leu	4,9146	BRL	Brazilian real	5,4765
TRY	Turkish lira	20,0355	MXN	Mexican peso	19,4512
AUD	Australian dollar	1,5551	INR	Indian rupee	87,6695

[1] *Source*: reference exchange rate published by the ECB.

NOTICES FROM MEMBER STATES

Commission information notice pursuant to Article 16(4) of Regulation (EC) No 1008/2008 of the European Parliament and of the Council on common rules for the operation of air services in the Community

Public service obligations in respect of scheduled air services

(Text with EEA relevance)

(2023/C 68/03)

Member State	Italy
Routes concerned	Reggio Calabria – Turin and return Reggio Calabria – Venice and return Reggio Calabria – Bologna and return
Date of entry into force of the public service obligations	27 May 2023
Address where the text and any information and/or documentation relating to the public service obligation can be obtained	For further information: Ministry of Infrastructure and Transport Department of Sustainable Mobility Directorate-General for Airports, Air Transport and Satellite Services Via Giuseppe Caraci, 36 00157 Rome ITALY Tel. +39 0644127190 National Civil Aviation Authority (ENAC) Air transport and licensing department Viale Castro Pretorio, 118 00185 Rome ITALY Tel. +39 0644596532 Internet: http://www.mit.gov.it http://www.enac.gov.it Email: dg.ta@pec.mit.gov.it osp@enac.gov.it

Commission information notice pursuant to Article 17(5) of Regulation (EC) No 1008/2008 of the European Parliament and of the Council on common rules for the operation of air services in the Community

Invitation to tender in respect of the operation of scheduled air services in accordance with public service obligations

(Text with EEA relevance)

(2023/C 68/04)

Member State	Italy
Routes concerned	Reggio Calabria – Bologna and return
Period of validity of the contract	From 27 May 2023 to 26 May 2025
Deadline for submission of tenders	Two months after the date of publication of this notice
Address from which the text of the invitation to tender and any relevant information and/or documentation relating to the public tender and the public service obligation can be obtained	National Civil Aviation Authority (ENAC) Air transport and licensing department Viale Castro Pretorio, 118 00185 Rome ITALY Tel. +39 0644596247 Email: osp@enac.gov.it Internet: http://www.mit.gov.it http://www.enac.gov.it

Commission information notice pursuant to Article 17(5) of Regulation (EC) No 1008/2008 of the European Parliament and of the Council on common rules for the operation of air services in the Community

Invitation to tender in respect of the operation of scheduled air services in accordance with public service obligations

(Text with EEA relevance)

(2023/C 68/05)

Member State	Italy
Routes concerned	Reggio Calabria – Turin and return
Period of validity of the contract	From 27 May 2023 to 26 May 2025
Deadline for submission of tenders	Two months after the date of publication of this notice
Address from which the text of the invitation to tender and any relevant information and/or documentation relating to the public tender and the public service obligation can be obtained	National Civil Aviation Authority (ENAC) Air transport and licensing department Viale Castro Pretorio, 118 00185 Rome ITALY Tel. +39 0644596247 Email: osp@enac.gov.it Internet: http://www.mit.gov.it http://www.enac.gov.it

Commission information notice pursuant to Article 17(5) of Regulation (EC) No 1008/2008 of the European Parliament and of the Council on common rules for the operation of air services in the Community

Invitation to tender in respect of the operation of scheduled air services in accordance with public service obligations

(Text with EEA relevance)

(2023/C 68/06)

Member State	Italy
Routes concerned	Reggio Calabria – Venice and return
Period of validity of the contract	From 27 May 2023 to 26 May 2025
Deadline for submission of tenders	Two months after the date of publication of this notice
Address from which the text of the invitation to tender and any relevant information and/or documentation relating to the public tender and the public service obligation can be obtained	National Civil Aviation Authority (ENAC) Air transport and licensing department Viale Castro Pretorio, 118 00185 Rome ITALY Tel. +39 0644596247 Email: osp@enac.gov.it Internet: http://www.mit.gov.it http://www.enac.gov.it

V

(Announcements)

ADMINISTRATIVE PROCEDURES

EUROPEAN COMMISSION

NOTICE PURSUANT TO ARTICLE 29(2) OF THE STAFF REGULATIONS

Publication of a vacancy for the function of Director for Expenditure (BUDG.A) in the Directorate-General Budget (grade AD 14), Brussels

COM/2023/10426

(2023/C 68/07)

The European Commission has published a vacancy notice (reference COM/2023/10426) for the function of Director for Expenditure (BUDG.A) in the Directorate-General for Budget (grade AD 14).

To consult the text of the vacancy notice in 24 languages and to submit your application, please visit this dedicated webpage on the European Commission's website: https://europa.eu/!jRN9r6

PROCEDURES RELATING TO THE IMPLEMENTATION OF COMPETITION POLICY

EUROPEAN COMMISSION

Prior notification of a concentration

(Case M.11035 – STENA / MIDSONA)

Candidate case for simplified procedure

(Text with EEA relevance)

(2023/C 68/08)

1. On 16 February 2023, the Commission received notification of a proposed concentration pursuant to Article 4 of Council Regulation (EC) No 139/2004 ([1]).

This notification concerns the following undertakings:

— Stena Adactum AB ('Stena', Sweden), controlled by Stena AB Group,

— Midsona AB ('Midsona', Sweden), listed on Nasdaq Stcokholm.

Stena will acquire within the meaning of Article 3(1)(b) of the Merger Regulation sole control over Midsona.

The concentration is accomplished by way of subscription of new shares.

2. The business activities of the undertakings concerned are the following:

— Stena is an investment company active within various areas and with long-term investment horizon,

— Midsona develops, produces and markets health food products, self-care products and hygiene products and markets then through several different sales channels, including grocery stores, pharmacies, specialized health stores, gyms as well as online.

3. On preliminary examination, the Commission finds that the notified transaction could fall within the scope of the Merger Regulation. However, the final decision on this point is reserved.

Pursuant to the Commission Notice on a simplified procedure for treatment of certain concentrations under Council Regulation (EC) No 139/2004 ([2]) it should be noted that this case is a candidate for treatment under the procedure set out in the Notice.

4. The Commission invites interested third parties to submit their possible observations on the proposed operation to the Commission.

Observations must reach the Commission not later than 10 days following the date of this publication. The following reference should always be specified:

M.11035 – STENA / MIDSONA

([1]) OJ L 24, 29.1.2004, p. 1 (the 'Merger Regulation').
([2]) OJ C 366, 14.12.2013, p. 5.

Observations can be sent to the Commission by email or by post. Please use the contact details below:

Email: COMP-MERGER-REGISTRY@ec.europa.eu

Postal address:

European Commission
Directorate-General for Competition
Merger Registry
1049 Bruxelles/Brussel
BELGIQUE/BELGIË

OTHER ACTS

EUROPEAN COMMISSION

Publication of a communication of approval of a standard amendment to a product specification for a name in the wine sector referred to in Article 17(2) and (3) of Commission Delegated Regulation (EU) 2019/33

(2023/C 68/09)

This communication is published in accordance with Article 17(5) of Commission Delegated Regulation (EU) 2019/33 ([1]).

COMMUNICATING THE APPROVAL OF A STANDARD AMENDMENT

'Carnuntum'

PDO-AT-A0217-AM01

Date of communication: 29.11.2022

DESCRIPTION OF AND REASONS FOR THE APPROVED AMENDMENT

1. **Maximum yield per hectare**

The maximum yield per hectare prior to the 2020 harvest was 9 000 kg/ha; as of the 2020 harvest it has been set at 10 000 kg/ha.

2. **Vine varieties**

Until the 2019 harvest, all vine varieties authorised for quality wines in Austria were permitted for the Carnuntum PDO, without restrictions. Starting from the 2019 harvest, the list of possible vine varieties has been restricted.

SINGLE DOCUMENT

1. **Name(s)**

Carnuntum

2. **Geographical indication type**

PDO – Protected Designation of Origin

3. **Categories of grapevine products**

1. Wine

4. **Description of the wine(s)**

1. *Carnuntum PDO 'weiß'*

CONCISE TEXTUAL DESCRIPTION

White wines of the Carnuntum PDO can be made from the Chardonnay, Weißburgunder and Grüner Veltliner varieties.

Colour: greenish yellow to light golden yellow.

([1]) OJ L 9, 11.1.2019, p. 2.

Aroma: If not stored in wooden barrels, the aroma is characterised by fresh apple and citrus notes. If stored in wooden barrels, buttery-toasty and extractive notes appear, together with aromas of white bread, dried fruit and raisins.

Taste: Wines in which Grüner Veltliner predominates are spicy, tasting of white pepper, with aromas of apple, pear, citrus and stone fruit. Carnuntum wines in which Chardonnay or Weißburgunder dominate have typical fruit aromas (apple, a hint of quince, even exotic fruits) as well as a spicy note (meadow flowers but also nuts).

General analytical characteristics	
Maximum total alcoholic strength (in % volume)	15,0
Minimum actual alcoholic strength (in % volume)	9,0
Minimum total acidity	4,0 grams per litre expressed as tartaric acid
Maximum volatile acidity (in milliequivalents per litre)	18
Maximum total sulphur dioxide (in milligrams per litre)	200

2. *Carnuntum PDO 'rot'*

CONCISE TEXTUAL DESCRIPTION

Red wines of the Carnuntum PDO are made from the main varieties Zweigelt and Blaufränkisch.

Colour: Dark red-violet.

Aroma: There are pronounced vanilla and sour cherry aromas, but also hints of pepper, blackcurrant or cinnamon. The overall result is a fruity-velvety bouquet.

Taste: Wines in which Zweigelt predominates have a juicy taste with a fruity note of ripe sour cherries, sometimes also plums. Wines of the Carnuntum PDO are generally moderately tannic and delicately herbaceous. Wines with a large proportion of Blaufränkisch have pronounced forest fruit or cherry flavours and a characteristically bracing acidity. Unlike the Zweigelt wines, Carnuntum wines made from Blaufränkisch are dense in structure and pronouncedly tannic.

General analytical characteristics	
Maximum total alcoholic strength (in % volume)	15,0
Minimum actual alcoholic strength (in % volume)	12,0
Minimum total acidity	4,0 grams per litre expressed as tartaric acid
Maximum volatile acidity (in milliequivalents per litre)	20
Maximum total sulphur dioxide (in milligrams per litre)	150

5. **Wine-making practices**

5.1. *Specific oenological practices*

—

5.2. *Maximum yields*

1. Carnuntum PDO

10 000 kilograms of grapes per hectare

6. **Demarcated geographical area**

The 'Carnuntum' designation of origin covers the political district of Bruck an der Leitha and the judicial district of Schwechat in Lower Austria.

7. **Wine grape variety(ies)**

Blaufränkisch - Frankovka

Chardonnay - Morillon

Grüner Veltliner - Weißgipfler

Weißer Burgunder - Klevner

Weißer Burgunder - Pinot Blanc

Weißer Burgunder - Weißburgunder

Zweigelt - Blauer Zweigelt

Zweigelt - Rotburger

8. **Description of the link(s)**

Carnuntum PDO

Climate: The climate is a typical Pannonian climate, with dry, hot summers and cold, dry winters. Summers and autumns are characterised by marked differences between day and night temperatures, with high daytime temperatures being followed by low temperatures at night. The nearby Danube and the temperature-regulating Neusiedlersee, however, exercise a stabilising influence on temperature and air humidity.

Soil: Soil conditions in the Carnuntum PDO vary considerably, ranging from heavy loams and loesses to sandy-gravelly layers. The soils were formed from deposits of the Paratethys Ocean and the earlier Danube. These deposits are extensively covered by calcareous materials, as is typical of former seas.

Link: In particular, the differences between day and night temperatures confer on white Carnuntum PDO wines their pronouncedly fruity aromas of apple, pear and citrus, as low night-time temperatures cause plants to form less sugar and develop more aromas. Calcareous soils (in combination with the appropriate root-stocks) give the white wines a discernible acidity, which in turn helps further develop and bring out their fruity aromas.

Red Carnuntum PDO wines made from the Zweigelt and Blaufränkisch varieties also benefit from the differences between day and night temperatures, which enhance their fruity aromas of ripe sour cherries and plums. For red Carnuntum PDO wines, the stabilising influence of the Neusiedlersee enables grapes to ripen long into the autumn, which accounts for the moderate tannin content typical of red Carnuntum PDO wines. The predominantly chalky soils produce the delicate herbaceousness found in many red Carnuntum PDO wines.

9. **Essential further conditions (packaging, labelling, other requirements)**

Production

Legal framework:

In national legislation

Type of further condition:

Derogation concerning production in the demarcated geographical area

Description of the condition:

For all PDO wines, the Austrian Wine Act provides that the production of a PDO wine must take place in the wine-growing region (PGI region of origin) in which the PDO area is located or in an adjacent wine-growing region. Austria therefore makes general use of the derogation provided for in Article 5 of Regulation (EU) 2019/33.

For the production of Carnuntum PDO wines, additional conditions have been laid down: As Carnuntum PDO is in immediate proximity to other wine-growing areas in Lower Austria and Burgenland, there are wine producers outside Carnuntum PDO who also buy grapes from that area in order to produce wines. In order to control such wines produced outside Carnuntum PDO as effectively as possible, the production of Carnuntum PDO wines outside the wine-growing area must be declared to and approved by the Carnuntum Regional Wine Committee beforehand. The Carnuntum PDO origin must be apparent on all relevant invoices, delivery notes and transport documents.

Legal framework:

In national legislation

Type of further condition:

Packaging within the demarcated geographical area

Description of the condition:

The Austrian Wine Act does not lay down general rules on the bottling of PDO wines.

In order to ensure the quality and typical characteristics of Carnuntum PDO wines, the following conditions are set for the bottling of Carnuntum PDO wines: Bottling may take place outside the Carnuntum wine-growing region only if it has been declared to and approved by the Carnuntum Regional Wine Committee. The Carnuntum origin must be apparent on relevant invoices, delivery notes and transport documents.

Link to the product specification

https://info.bml.gv.at/themen/landwirtschaft/landwirtschaft-in-oesterreich/pflanzliche-produktion/wein/Weinherkunft.html

Publication of a communication of approval of a standard amendment to a product specification for a name in the wine sector referred to in Article 17(2) and (3) of Commission Delegated Regulation (EU) 2019/33

(2023/C 68/10)

This communication is published in accordance with Article 17(5) of Commission Delegated Regulation (EU) 2019/33 [1].

COMMUNICATING THE APPROVAL OF A STANDARD AMENDMENT

'Weststeiermark'

PDO-AT-A0234-AM01

Date of communication: 29.11.2022

DESCRIPTION OF AND REASONS FOR THE APPROVED AMENDMENT

1. **Modification of the maximum yield per hectare**

The maximum yield per hectare prior to the 2020 harvest was 9 000 kg/ha; as of the 2020 harvest it has been set at 10 000 kg/ha.

2. **Wine-grape varieties**

Prior to the 2018 harvest all grape varieties authorised for quality wines in Austria were permitted for use in 'Weststeiermark' PDO wines. Since the 2018 harvest the list of possible grape varieties has been restricted.

SINGLE DOCUMENT

1. **Name(s)**

Weststeiermark

2. **Geographical indication type**

PDO – protected designation of origin

3. **Categories of grapevine product**

1. Wine

4. **Description of the wine(s)**

'Weststeiermark' PDO

CONCISE TEXTUAL DESCRIPTION

About 80 % of production in the 'Weststeiermark' PDO wine-growing area is exclusively accounted for by the Blauer Wildbacher variety (traditional name: 'Schilcher') . Blauer Wildbacher is an old, indigenous variety.

Colour: Pink to rosé

Aroma: Red berry notes (wild strawberry, strawberry, raspberry)

Taste: Fresh, lively acid with multiple notes of juicy wild strawberries and strawberries.

A small proportion of 'Weststeiermark' PDO wines are produced from white-wine grapes.

Colour: greenish yellow to light golden yellow

[1] OJ L 9, 11.1.2019, p. 2.

Smell: Fruity aromas of blackcurrant and gooseberry, but also green pepper.

Taste: Apple, freshly mown grass and mineral notes.

General analytical characteristics	
Maximum total alcoholic strength (in % volume)	15,0
Minimum actual alcoholic strength (in % volume)	9
Minimum total acidity	4 grams per litre expressed as tartaric acid
Maximum volatile acidity (in milliequivalents per litre)	18
Maximum total sulphur dioxide (in milligrams per litre)	200

5. **Wine-making practices**

5.1. *Specific oenological practices*

—

5.2. ***Maximum yields***

'Weststeiermark' PDO

10 000 kilograms of grapes per hectare

6. **Demarcated geographical area**

The 'Weststeiermark' PDO area covers the districts of 'Graz', 'Graz-Umgebung', 'Voitsberg' and 'Deutschlandsberg' in the province of Styria.

7. **Wine grape variety(ies)**

Blauer Wildbacher - Schilcher

8. **Description of the link(s)**

'Weststeiermark' PDO

Climate: The 'Weststeiermark' PDO area is characterised by its particular topography. Deep valleys running from East to West protect against strong winds and allow considerable warming during the day. The vast majority of vineyards are, moreover, located on slopes and therefore absorb more solar radiation than is usually the case. The nights, however, are much cooler, owing to the altitude of the 'Weststeiermark' PDO area.

Soil: Vineyards in the 'Weststeiermark' PDO area are largely located on mostly acidic, crystalline solid rocks of the Eastern Alps and, to the East, on the partly coarse and predominantly loose rocks of the Styrian Basin.

Link: The extreme temperature difference between day and night causes the grapes to have a higher acidity than average. The rosé wine from the 'Weststeiermark' PDO (traditional name: 'Schilcher') is therefore the most acid-rich wine in Austria. The white wines are also characterised by a flavour profile dominated by acidity. In addition to the defining acidity, the diurnal range confers characteristic fruit aromas such as strawberry and raspberry, especially on white wines made from Burgunder grape varieties.

9. **Essential further conditions (packaging, labelling, other requirements)**

Production

Legal framework:

In national legislation

Type of further condition:

Derogation concerning production in the demarcated geographical area

Description of the condition:

For all PDO wines, the Austrian Wine Act provides that the production of a PDO wine must take place in the wine-growing region (PGI region of origin) in which the PDO area is located or in an adjacent wine-growing region. Austria therefore makes general use of the derogation provided for in Article 5 of Regulation (EU) 2019/33.

For the production of 'Weststeiermark' PDO wines, additional conditions have been laid down: Production must take place in the 'Steiermark' PDO area (including the 'Weststeiermark' PDO, 'Südsteiermark' PDO and 'Vulkanland Steiermark' PDO). Bottling outside the 'Steiermark' PDO wine-growing area is permissible only after notification to and approval by the Styria Regional Wine Committee.

Bottling

Legal framework:

In national legislation

Type of further condition:

Packaging within the demarcated geographical area

Description of the condition:

The Austrian Wine Act does not lay down general rules on the bottling of PDO wines.

In order to ensure the quality and typical characteristics of 'Weststeiermark' PDO wines, the following conditions are laid down on the bottling of 'Weststeiermark' PDO wines: Bottling must take place in the 'Steiermark' PDO area (including the 'Weststeiermark' PDO, 'Südsteiermark' PDO and 'Vulkanland Steiermark' PDO). Bottling outside the 'Steiermark' PDO wine-growing area is permissible only after notification to and approval by the Styria Regional Wine Committee.

Link to the product specification

https://info.bml.gv.at/themen/landwirtschaft/landwirtschaft-in-oesterreich/pflanzliche-produktion/wein/Weinherkunft.html

Publication of a communication of approval of a standard amendment to a product specification for a name in the wine sector referred to in Article 17(2) and (3) of Commission Delegated Regulation (EU) 2019/33

(2023/C 68/11)

This communication is published in accordance with Article 17(5) of Commission Delegated Regulation (EU) 2019/33 ([1]).

COMMUNICATING THE APPROVAL OF A STANDARD AMENDMENT

'Neusiedlersee'

PDO-AT-A0219-AM01

Date of communication: 29.11.2022

DESCRIPTION OF AND REASONS FOR THE APPROVED AMENDMENT

1. **Maximum yield per hectare**

The maximum yield per hectare prior to the 2020 harvest was 9 000 kg/ha; as of the 2020 harvest it has been set at 10 000 kg/ha.

2. **Vine varieties**

Prior to the 2020 harvest all grape varieties authorised for quality wines in Austria were permitted for use in 'Neusiedlersee' PDO wines. Since the 2020 harvest the list of possible grape varieties has been restricted.

SINGLE DOCUMENT

1. **Name(s)**

Neusiedlersee

2. **Geographical indication type**

PDO – protected designation of origin

3. **Categories of grapevine product**

1. Wine

15. Wine from raisined grapes

16. Wine of overripe grapes

4. **Description of the wine(s)**

1. *PDO 'Neusiedlersee'*

CONCISE TEXTUAL DESCRIPTION

'Neusiedlersee' PDO wines are made from the Zweigelt grape variety.

Robe: muted deep red;

Bouquet: characteristic fruity-velvety bouquet with aromas of vanilla and sour cherry;

Taste: When aged in steel tanks, 'Neusiedlersee' PDO wines display the ripe sour cherry or plum aromas that characterise the Zweigelt variety.

([1]) OJ L 9, 11.1.2019, p. 2.

General analytical characteristics	
Maximum total alcoholic strength (in % volume)	15,0
Minimum actual alcoholic strength (in % volume)	12,0
Minimum total acidity	4 grams per litre expressed as tartaric acid
Maximum volatile acidity (in milliequivalents per litre)	20
Maximum total sulphur dioxide (in milligrams per litre)	150

2. *PDO 'Neusiedlersee' 'Reserve'*

CONCISE TEXTUAL DESCRIPTION

Wines of the Neusiedlersee' PDO can also be aged in wooden casks and bear the additional designation 'Reserve'.

Taste: Fruit notes of ripe sour cherry or plum recede into the background, with notes of ripe tannins, vanilla, chocolate and plum jam derived from the wooden casks coming to the fore.

Robe: muted and very deep red;

Bouquet: When aged in wooden casks, Neusiedlersee' PDO 'Reserve' wines display, depending on the toasting of the casks, notes ranging from the typical vanilla to smoky chocolate.

General analytical characteristics	
Maximum total alcoholic strength (in % volume)	15,0
Minimum actual alcoholic strength (in % volume)	13,0
Minimum total acidity	4 grams per litre expressed as tartaric acid
Maximum volatile acidity (in milliequivalents per litre)	20
Maximum total sulphur dioxide (in milligrams per litre)	150

3. *PDO 'Neusiedlersee' 'fruchtsüß'*

CONCISE TEXTUAL DESCRIPTION

'Neusiedlersee' PDO wines of the 'fruchtsüß' category are made from overripe grapes.

Grape variety: All white Austrian quality vine varieties may be used; the main variety is Welschriesling.

Smell and taste: must meet the criteria for the traditional designations 'Spätlese' and 'Auslese', chief among them being high fruit sweetness and hints of tropical fruit (e.g. banana and pineapple).

General analytical characteristics	
Maximum total alcoholic strength (in % volume)	15,0
Minimum actual alcoholic strength (in % volume)	5
Minimum total acidity	4 grams per litre expressed as tartaric acid
Maximum volatile acidity (in milliequivalents per litre)	18
Maximum total sulphur dioxide (in milligrams per litre)	350

4. *PDO 'Neusiedlersee' 'edelsüß'*

CONCISE TEXTUAL DESCRIPTION

'Neusiedlersee' PDO wines of the 'edelsüß' category are made from raisined grapes.

Grape variety: All white Austrian quality vine varieties may be used; the main variety is Welschriesling.

Smell and taste: must meet the criteria for the traditional designations 'Beerenauslese' and 'Trockenbeerenauslese', chief among them being the characteristic nut, honey and caramel aromas.

General analytical characteristics	
Maximum total alcoholic strength (in % volume)	15,0
Minimum actual alcoholic strength (in % volume)	5
Minimum total acidity	4 grams per litre expressed as tartaric acid
Maximum volatile acidity (in milliequivalents per litre)	40
Maximum total sulphur dioxide (in milligrams per litre)	400

5. **Wine-making practices**

5.1. *Specific oenological practice*

—

5.2. *Maximum yields*

PDO 'Neusiedlersee'

10 000 kilograms of grapes per hectare

6. **Demarcated geographical area**

The protected designation of origin 'Neusiedlersee' covers the whole of the political district of Neusiedl am See in Burgenland, except for the municipalities of Winden and Jois.

7. **Wine grape variety(ies)**

Welschriesling

Zweigelt – Blauer Zweigelt

Zweigelt – Rotburger

8. **Description of the link(s)**

PDO 'Neusiedlersee'

Climate: The 'Neusiedlersee' PDO area lies at the centre of the Pannonian climate zone. The climate is distinguished by dry, hot summers and cold winters with little snow. Central Europe's largest steppe lake, the Neusiedlersee with its 300 km^2 of water and reed beds plays a major role as a climate regulator and provides a special microclimate. In summer the large body of water warms up and slowly releases the stored heat to the environment at night. High humidity (resulting from the lake's large surface area) and autumn fog characterise the period during which the grapes ripen in the 'Neusiedlersee' PDO area.

Soil: The 'Neusiedlersee' PDO area stretches from the north to the east shore of the Neusiedlersee. The north-east shore of the Neusiedlersee has loessial and chernozem soils. In the Seewinkel (the southern part of the 'Neusiedlersee' PDO area) there are also gravel, sandy and saline soils.

Link: These factors have the following impact on the flavour of 'Neusiedlersee' PDO wines:

1) 'Neusiedlersee' PDO and 'Neusiedlersee' PDO 'Reserve' wines are made from the Zweigelt grape variety. This variety prefers nutrient-poor soils like the gravel, sandy and saline soils in the south of the Neusiedlersee area and develops its characteristic sour-cherry, plum and apricot aromas on those soils.

(2) 'Neusiedlersee' PDO 'Spätlese' and 'Auslese' wines are made from overripe grapes. The hot, dry summers of the Neusiedlersee wine-growing area allow the grapes to ripen for a particularly long time. This process is further supported by the heat-regulating effect of the lake, which warms up over the summer. The overripe grapes confer notes of tropical fruit (e.g. banana and pineapple) on the smell and taste.

(3) 'Neusiedlersee' PDO 'Beerenauslese' and 'Trockenbeerenauslese' wines are made from raisined grapes. High humidity (resulting from the lake's large surface area) and autumn fog favour the formation of 'noble rot' (*Botrytis cinerea*). Infestation with this fungus leaves the grape skin perforated and permeable to water. This causes the grapes to dry while still on the stem in the vineyard. This confers the characteristic nut, honey and caramel aromas on the smell and taste.

9. **Essential further conditions (packaging, labelling, other requirements)**

Production

Legal framework:

In national legislation

Type of further condition:

Derogation concerning production in the demarcated geographical area

Description of the condition:

For all PDO wines, the Austrian Wine Act provides that the production of a PDO wine must take place in the wine-growing region (PGI region of origin) in which the PDO area is located or in an adjacent wine-growing region. Austria therefore makes general use of the derogation provided for in Article 5 of Regulation (EU) 2019/33.

For the production of 'Neusiedlersee ' PDO wines, additional conditions have been laid down: 'Neusiedlersee' PDO wines may be made outside the area of origin when the producer's vineyards are located in the 'Neusiedlersee' PDO area and the wine is made at premises of the producer outside that area or when there are parcel contracts between a producer with premises outside the 'Neusiedlersee' PDO area and owners of vineyards inside that area.

Bottling

Legal framework:

In national legislation

Type of further condition:

Packaging within the demarcated geographical area

Description of the condition:

The Austrian Wine Act does not lay down general rules on the bottling of PDO wines.

In order to ensure the quality and typical characteristics of 'Neusiedlersee' PDO wines, the following conditions are laid down on the bottling of 'Neusiedlersee' PDO wines: 'Neusiedlersee' PDO wines may be bottled outside the area of origin when the bottler's vineyards are located in the 'Neusiedlersee' PDO area and the wine is bottled at premises of the bottler outside that area.

Link to the product specification

https://info.bml.gv.at/themen/landwirtschaft/landwirtschaft-in-oesterreich/pflanzliche-produktion/wein/Weinherkunft.html

Publication of a communication of approval of a standard amendment to a product specification for a name in the wine sector referred to in Article 17(2) and (3) of Commission Delegated Regulation (EU) 2019/33

(2023/C 68/12)

This communication is published in accordance with Article 17(5) of Commission Delegated Regulation (EU) 2019/33 ([1]).

COMMUNICATING THE APPROVAL OF A STANDARD AMENDMENT

'Wachau'

PDO-AT-A0205-AM01

Date of communication: 29.11.2022

DESCRIPTION OF AND REASONS FOR THE APPROVED AMENDMENT

1. **Maximum yield per hectare**

The maximum yield per hectare prior to the 2020 harvest was 9 000 kg. As of the 2020 harvest, it is 10 000 kg.

2. **Vine varieties**

For the 'Wachau' PDO, up until the 2020 harvest, all vine varieties authorised in Austria for Qualitätswein (quality wine) were allowed, with no restrictions. Since the 2020 harvest, the list of possible vine varieties has been restricted.

SINGLE DOCUMENT

1. **Name of the product**

Wachau

2. **Geographical indication type**

PDO – Protected designation of origin

3. **Categories of grapevine product**

1. Wine

4. **Description of the wine(s)**

'Wachau' PDO

CONCISE TEXTUAL DESCRIPTION

Most of the 'Wachau' PDO wines produced are white wines. Red wines account for a very small proportion.

Colour: the majority of the white wines are greenish yellow or light straw-yellow in colour. High value white wines which have been aged for longer may be moderate to deep golden yellow in colour. Young red wines may be described as light cherry red in colour, while older red wines which have been aged for longer are deep purplish red or have a garnet or ruby-red tinge.

Aroma: the white wines predominantly evoke pome fruit such as apple or pear, and citrus fruit. The more advanced the ageing process, the more the aromas evoke dried and exotic fruit (e.g. pineapple and banana). 'Wachau' red wines have primary aromas mainly of cherry and plum, or after time spent in barrels, secondary aromas of, e.g. tobacco or chocolate.

([1]) OJ L 9, 11.1.2019, p. 2.

Taste: acidity is key to the taste of 'Wachau' white wines, underpinning the taste of apple and citrus fruit (grapefruit, lemon and lime). In more aged white wines, in particular where the main variety is Grüner Veltliner, the finish has notes of pepper and apricot. The red wines have a predominantly fruity, low-tannin flavour with hints of sour cherry and redcurrant. Wines stored in wooden barrels have a smokiness from barrel-ageing and hints of compote and stewed fruit.

General analytical characteristics	
Maximum total alcoholic strength (in % volume)	15
Minimum actual alcoholic strength (in % volume)	9,0
Minimum total acidity	4 grams per litre, expressed as tartaric acid
Maximum volatile acidity (in milliequivalents per litre)	18
Maximum total sulphur dioxide (in milligrams per litre)	200

5. **Wine-making practices**

5.1. *Specific oenological practices*

—

5.2. *Maximum yields*

'Wachau' PDO

10 000 kilograms of grapes per hectare

6. **Demarcated geographical area**

The 'Wachau' designation of origin covers the municipalities of Aggsbach, Bergern im Dunkelsteinerwald, Dürnstein, Mautern an der Donau, Mühldorf, Rossatz-Arnsdorf, Spitz and Weißenkirchen in Lower Austria.

7. **Wine grape variety(ies)**

Grüner Veltliner - Weißgipfler

Weißer Riesling - Rheinriesling

Weißer Riesling - Riesling

8. **Description of the link(s)**

'Wachau' PDO

The Wachau wine-growing area is characterised by steep terraces located on the banks of the Danube.

Climate: two powerful influences meet here, namely the western/Atlantic and the eastern/Pannonian climates. The Atlantic climate results in above-average rainfall, while the Pannonian climate is characterised by high daytime temperatures and cool nights. Wachau is also known for its microclimates depending on the slope, exposure and terrain, and resulting from the heat-storing walls and boulders of the terraces. The high daytime temperatures and harsh winters are tempered by the broad expanse of the Danube. Moreover, the cool downwinds from Waldviertel in the north cause major variation between day and night-time temperatures, especially in the months leading up to the harvest.

Soil: Wachau is characterised by weathered bedrock soils, while drift sand was deposited on the leeward side of the mountains in the postglacial period, allowing loess layers to form in many places on the eastern sides of the rock slopes. This geological terrain and the stone terraces which were laid in the Middle Ages allow for more efficient cultivation of the steep slopes along the Danube and are also the key features of the Wachau landscape.

Link: the weathered bedrock soils of the terraces bring out the citrus aromas (lemon and grapefruit) of the Rheinriesling variety. The loess soils are the basis for the pome fruit (apple and pear) aromas of the potent, full-bodied Grüne Veltliner wines. The highly variable temperatures are key to the high acidity of the white wines. In the red wines, the temperature differences bring out, in particular, the fruity, low-tannin flavours.

9. **Essential further conditions (packaging, labelling, other requirements)**

Production

Legal framework:

National legislation

Type of further condition:

Derogation concerning production in the demarcated geographical area

Description of the condition:

For all PDO wines, the Austrian Wine Act provides that the production of a PDO wine must take place in the wine-growing region (PGI region of origin) in which the PDO area is located or in an adjacent wine-growing region. Austria therefore makes general use of the derogation provided for in Article 5 of Regulation (EU) 2019/33.

For the production of 'Wachau' PDO wines, additional conditions have been laid down: 'Wachau' PDO wines may be produced outside the area of origin if the producer is based in the Kremstal or Traisental areas of origin adjacent to the 'Wachau' PDO area and owns vineyards in the Wachau area of origin or has agreed grape supply contracts with owners of such vineyards.

Bottling

Legal framework:

National legislation

Type of further condition:

Packaging within the demarcated geographical area

Description of the condition:

The Austrian Wine Act does not lay down general rules on the bottling of PDO wines.

In order to ensure the quality and typical characteristics of 'Wachau' PDO wines, the following conditions are laid down on the bottling of 'Wachau' PDO wines: 'Wachau' PDO wines may be bottled by any bottler based in Wachau. Furthermore, it may be bottled by bottlers based in the Kremstal or Traisental areas of origin adjacent to the 'Wachau' PDO area who own vineyards in the Wachau area of origin or have agreed contracts with owners of such vineyards.

Link to the product specification

https://info.bml.gv.at/themen/landwirtschaft/landwirtschaft-in-oesterreich/pflanzliche-produktion/wein/Weinherkunft.html

Publication of an application for approval of an amendment, which is not minor, to a product specification pursuant to Article 50(2)(a) of Regulation (EU) No 1151/2012 of the European Parliament and of the Council on quality schemes for agricultural products and foodstuffs

(2023/C 68/13)

This publication confers the right to oppose the amendment application pursuant to Article 51 of Regulation (EU) No 1151/2012 of the European Parliament and of the Council [1] within three months from the date of this publication.

APPLICATION FOR APPROVAL OF AN AMENDMENT TO THE PRODUCT SPECIFICATION OF PROTECTED DESIGNATIONS OF ORIGIN/PROTECTED GEOGRAPHICAL INDICATIONS WHICH IS NOT MINOR

Application for approval of an amendment in accordance with the first subparagraph of Article 53(2), of Regulation (EU) No 1151/2012

'PIMENTÓN DE MURCIA'

EU No: PDO-ES-0113-AM02 – 2.2.2021

PDO (X) PGI ( )

1. **Applicant group and legitimate interest**

a) Applicant group:

Consejo Regulador de la Denominación de Origen Protegida 'PIMENTÓN DE MURCIA' [Regulatory Board for the Protected Designation of Origin 'PIMENTÓN DE MURCIA']

Avda. Santa Eulalia, 7 - Bajo
30850 Totana – Murcia
ESPAÑA

Tel. and Fax 968 424016

Email: info@pimentondemurcia.es

b) Legitimate interest:

The Regulatory Board is the organisation that represents all of the producers and is officially recognised for the management of the PDO, in accordance with the applicable legislation (Order of 17 December 2001 of the Regional Ministry of Agriculture, Water and the Environment approving the regulation governing the 'Pimentón de Murcia' designation of origin and its Regulatory Board).

Please find attached proof of its legitimate interest and a certificate of its composition and functions, in a letter signed by its Chairperson.

2. **Member State or Third Country**

Spain

[1] OJ L 343, 14.12.2012, p. 1.

3. **Heading in the product specification affected by the amendment(s)**

☐ Name of product

☒ Description of product

☒ Geographical area

☐ Proof of origin

☐ Method of production

☒ Link

☐ Labelling

☒ Other [to be specified]

— Control body

— National legal requirements

4. **Type of amendment(s)**

☐ Amendment to product specification of a registered PDO or PGI not to be qualified as minor in accordance with the third subparagraph of Article 53(2) of Regulation (EU) No 1151/2012.

☒ Amendment to product specification of registered PDO or PGI for which a Single Document (or equivalent) has not been published not to be qualified as minor in accordance with the third subparagraph of Article 53(2) of Regulation (EU) No 1151/2012

5. **Amendment**(s)

1. *Section B) Description of product*

Amendment to the analytical characteristics for the 'Extra' and 'Primera' [Class I] commercial categories described in section B) Description of the product, heading 'Characteristics of the Finished Product', subheading 'Physical and chemical characteristics' (table).

Current text:

Only the following commercial categories are covered: EXTRA and PRIMERA [Class I], as defined by the following analytical characteristics:

Characteristics	Extra	Primera
(*) Colour — Minimum ASTA units	120	90
Maximum humidity expressed as %	14	14
Ether extract of dry matter expressed as % maximum	20	23
Maximum ash in dry matter expressed as %:		
— Total	7,5	8
— Insoluble	0,7	1
Raw fibre in dry matter expressed as %	27	28
Maximum capsaicin expressed as %	0,003	0,003

(*) At the time of milling.

New, amended text:

Only the following commercial categories are covered: EXTRA and PRIMERA [Class I], as defined by the following analytical characteristics:

Characteristics	Extra	Primera
(*) Colour — Minimum ASTA units	≥ 120	≥ 90
Maximum humidity expressed as %	≤ 14	≤ 14
Ether extract of dry matter expressed as %, maximum	≤ 20	≤ 23
Maximum ash in dry matter expressed as %:		
— Total	≤ 9,4	≤ 9,9
— Insoluble	≤ 0,7	≤ 1
Raw fibre in dry matter expressed as %	≤ 27	≤ 28
Maximum capsaicin expressed as %	≤ 0,003	≤ 0,003

(*) At the time of milling.

Reason:

There are two reasons for the amendment to the table on physical and chemical characteristics.

First of all, this amendment is a corrigendum. The current product specification indicates the raw fibre content as an absolute and exact value and not as a minimum or maximum or as a range. The legislation in force at the time (Order of 1 September 1983 on Quality Standards for *Pimentón* for Export, published in Official State Gazette No 243, pages 27973 to 27975) indicated the analytical parameters as maximum and minimum values, but this clarification was mistakenly not reflected in the product specification. We would like to include a mention that the value indicated refers to the maximum value. By extension, we would like to clarify the criterion used for the rest of the parameters with ≤ and ≥.

Secondly, the change in the total ash content is being made to account for the new analytical techniques, with the value being adjusted in accordance with the sensitivity and uncertainty of the methods currently applied. This amendment has no impact on the characteristics of the finished product, in accordance with Royal Decree 2242/84 of 26 September 2007.

Single Document

This amendment is included in paragraph 3.2. Description of the product to which the name in (1) applies

2. *Section C) Geographical area*

Current text:

C) GEOGRAPHICAL AREA

PRODUCTION AREA

The production area for the peppers intended for the production of paprika to be covered by the Designation of Origin 'Pimentón de Murcia' comprises land located in the following municipalities in the province of Murcia in south-eastern Spain:

Alhama de Murcia

Beniel

Cartagena

Fortuna

Fuente Álamo

Librilla

Lorca

Molina de Segura

Murcia

Puerto Lumbreras

San Javier

Santomera

Torre Pacheco

Totana

The total area comprises 484 450 ha, of which 277 204 ha are plantations.

PROCESSING AND PACKAGING AREA

The processing and packaging area comprises all the municipalities of the province of Murcia.

New, amended text:

PRODUCTION AREA

The production area for the peppers intended for the production of paprika to be covered by the Designation of Origin 'Pimentón de Murcia' comprises land located in the following municipalities in the provinces of Murcia, Almería, Granada and Alicante, located in south-eastern Spain:

Province of Murcia:

Alhama de Murcia

Beniel

Caravaca

Cartagena

Fortuna

Fuente Álamo

Librilla

Lorca

Mazarrón

Molina de Segura

Murcia

Puerto Lumbreras

San Javier

Santomera

Torre Pacheco

Totana

Province of Almería:

Pulpí

Vélez Blanco

Vélez Rubio

Province of Granada:

Orce

Puebla de Don Fadrique

Province of Alicante:

Elche

Guardamar del Segura

Orihuela

Pilar de la Horadada

Torrevieja

PROCESSING AND PACKAGING AREA

The processing and packaging area is the same as the production area.

Reason:

The geographical area defined in the product specification has been amended to include in the territorial scope protected by the 'Pimentón de Murcia' PDO the production of peppers and paprika in neighbouring municipalities that share the same historical characteristics, terrain, climate and human factors as those currently indicated.

Peppers for paprika have been produced in these municipalities, including by the same producers that make the product covered by the PDO. The farms are adjacent and the pepper and variety grown have the same characteristics as those defined in the product specification for the PDO. The product is even dehydrated in drying chambers registered with the PDO. The paprika is partly bought by or intended for plants registered with the PDO. However, up to now these producers had not qualified and could not benefit from the protection of the PDO when placing their product on the market.

The following municipalities have been added to the geographical area:

Province of Murcia:

Caravaca

Mazarrón

Province of Almería:

Pulpí

Vélez Blanco

Vélez Rubio

Province of Granada:

Orce

Puebla de Don Fadrique

Province of Alicante:

Elche

Guardamar del Segura

Orihuela

Pilar de la Horadada

Torrevieja

All of the extensions correspond to municipalities in the province itself or neighbouring municipalities from border provinces.

The application submitted by the Regulatory Board for the 'Pimentón de Murcia' PDO to have the geographical area extended is in response to requests received from many farmers based in the areas adjacent to the area currently protected.

Municipalities belonging to the Province of Murcia

The municipalities of Mazarrón and Caravaca are close to the areas where the largest production - and producers - of 'Pimentón de Murcia' are concentrated. The plantations expanded into these areas from Murcia in the 1950s and 1960s.

Both municipalities have similar temperature, rainfall and humidity patterns. In the municipalities of Mazarrón and Caravaca, as in the other municipalities included in the specification, the average temperature is 16-20 °C in the months when planting commences and the maximum temperatures remain below 32 °C in July and August. Humidity is over 40 % in these months and can reach 70 % between July and September. The average rainfall in the municipality of Mazarrón is 280 mm, with slightly higher values being recorded in some parts of Caravaca.

It should be noted that transplantation could be delayed in the Caravaca highlands. This was already taken into consideration in the initial product specification, which allows for transplantation after a certain date without specifying a deadline for it.

Finally, the cultivation techniques are identical to those of the protected production areas, since they are the same farmers with the same growing process and tradition, which developed throughout the territory at the same time and under the same conditions.

Municipalities belonging to the provinces of Almería and Granada

The provinces of Almería and Granada, like those of Murcia and Alicante, are part of south-eastern Spain. They share the same general rainfall patterns, temperatures and soil characteristics, albeit with evident differences at local level.

In terms of climate, it should be noted that the rainfall is similar to that of the Mediterranean climate, with local and circumstantial differences, particularly in the municipalities of Puebla de Don Fadrique and Orce. Pulpí has a more arid climate. These local differences are not considered to be significant:

In Puebla de Don Fadrique and Orce, the average rainfall is higher (400 ± 50 mm per year) than in the other municipalities. In Pulpí, which has a more arid climate, the average rainfall is below 300 mm per year (297 mm). Recorded rainfall values have been shown to vary from year to year, probably due to the effects of climate change. These differences are not considered significant because in the months in which the peppers are planted and used to produce 'Pimentón de Murcia' (April — October) the values recorded are similar to those of the other municipalities (170 mm).

Peppers, and more specifically the Bola variety used in the PDO 'Pimentón de Murcia', have traditionally been grown in Almería and Granada. They were 'exported' by businesses and farmers from the Guadalentín valley that moved to more virgin land, just as the earliest farmers in the Segura valley had done in the mid-20th century, when a fungal problem forced them to move their plantations into what is now the Guadalentín valley and other areas.

However, these areas cannot be regarded as new, or are at least not so new to growing peppers for paprika. There are bibliographical references to the cultivation of peppers for paprika going back at least to 1987, where the provinces of Almería and Granada are highlighted as producers of peppers for paprika. For instance, the book *'El pimiento para pimentón' [Peppers for paprika]* by M *Zapata et al, 1991,* provides statistical data on the presence of this crop in both of these provinces.

Municipalities in the Province of Alicante

Growing peppers for paprika has been a constant in the province of Alicante since ancient times.

The municipalities of Guardamar del Segura, Orihuela and Pilar de la Horadada are located in the Vega Baja or Vega Baja del Segura district, and the municipality of Elche is located in the Bajo Vinalopó district.

Soil salinity levels in the Vega Baja and Bajo Vinalopó districts range between 3,5 and 3,7 dSm^{-1} [Developing a predictive model for the build-up of salts in agricultural soils in Mediterranean climate conditions; application to the Vega Baja del Segura and Bajo Vinalopó districts in Alicante (Fernando Visconti Reluy)]. These values are similar to those detected in the Campo de Cartagena district (where the municipalities of Cartagena, Fuente Álamo, San Javier and part of the municipality of Mazarrón are located) or the Guadalentín valley (where the municipalities of Alhama, Librilla, Lorca, Puerto Lumbreras, Totana and part of Mazarrón are located). The climate in southern Alicante where the districts being added are located is also the same as in the existing production areas for the PDO.

The main features of the climate in this larger area can be summarised as follows: low average rainfall (280 ± 40 mm per year, 291 mm per year in Orihuela or 243 mm per year in Torrevieja), high average solar radiation (6 200 ± 100 MJ m^{-2} $year^{-1}$), moderately high average temperature (18 ± 1 °C), almost no strong winds (wind speed below 20 km/h on 80 % - 40 % of days) and almost no frost. Over a longer timescale, the climate in these municipalities includes cyclical droughts. This phenomenon occurs every 15 to 25 years, with the drought lasting at least 24 months at a time. In times of drought, the annual rainfall is up to 60 % lower than average.

Finally, as regards the tradition of cultivation in the areas of Vega Baja del Segura and Bajo Vinalopó, it is worth noting in the bibliography 'El Libro del Pimentón 1756-1965' [The Book of Paprika 1756-1965] by Jesús Pérez de Espinardo, the 1st edition of which was published in 2000. It refers on several occasions to the cultivation of peppers for paprika, e.g. '*From the early 19th century until the mid-20th century, growing peppers for paprika had gradually spread throughout the whole Vega del Segura area [...] due to the pepper blight' (Phytophthora Capsici), which meant that new growing areas had to be created in Campo de Cartagena, Campo de Elche and the Guadalentín valley*'.

Thus, initially, according to all the literature sources consulted, the areas with the highest production were located in Vega del Segura, and more specifically in Vega Baja del Segura, which is where the processing plants were created. However, fungal problems saw production move to the areas of Campo de Cartagena, Campo de Elche and the Guadalentín valley (as noted in the literature), with the latter now being the largest producer of peppers for paprika.

Single Document

This amendment is included in section 4. Concise definition of the geographical area.

3. *Section F) Factors proving the link with the geographical environment. influence of the environment on the product*

Current text:

a) Historical factors

The first records of peppers being grown in the Murcia Region are from the early 16th century. They refer to the Hieronymite friars, who were responsible for introducing the crop, which they grew on some land they owned near the 'Rueda' and the 'Acequia Mayor de La Ñora' irrigation channel.

The peppers harvested by the friars each year were soon referred to by local names. To be more specific, the name 'ñora' has traditionally been used in the Murcia Region to refer to sweet red peppers. This is probably on account of the location where they were first grown, as there was a rural district by that name - La Ñora - in the municipality of Murcia.

The original seeds brought from the Americas come from a slightly elongated, spicy wild pepper. Although there is no scientific proof, some authors have claimed that this original pepper acquired a more rounded shape and a less spicy taste after a few years, influenced by the environmental conditions of the Huerta de Murcia area and the cultivation techniques employed by the growers.

This crop subsequently spread along the entire bank of the River Segura, particularly in the areas close to Molina del Segura. In the early 2000s, the crop spread to other areas such as the Guadalentín valley, Huerta de Murcia, Fortuna, etc. and its economic importance grew significantly.

The industrialisation of the pepper sector in the Murcia Region can be considered to have begun in the mid-nineteenth century, when a local woman had the idea of rubbing oil on the peppers and toasting them in an oven. This brought out the shine in the peppers and enabled her to sell them for a good price on the market. Later, she became even more inventive with the peppers prepared in that way, first using a mortar to chop them up and then trying the same in a flour mill.

In 1992, the pepper for paprika subsector was one of the most characteristic agricultural activities in the Murcia Region, historically the main pepper-producing and paprika-exporting area in Spain.

Peppers for paprika are undoubtedly the traditional crop of the Murcia Region. This artisanal crop is so emblematic of Murcia that the term '*pimentoneros*' is frequently used as a synonym for Murcians, particularly the local football club 'Real Murcia, Club de Fútbol'. The book HISTORIA DEL REAL MURCIA [History of the Real Murcia Football Club) explains that the colours adopted for the club definitive kit were as follows: Pepper-red jersey and dark blue (or occasionally black) shorts.

Paprika is valued for its double function as both colouring and flavouring. The regional gastronomy includes myriad recipes in which sweet paprika is an essential ingredient. One of the most original is the 'Torta de pimentón' pie made in Totana. At the 1929 Ibero-American Exhibition in Seville, the Murcia Pepper Exporters Guild presented a comprehensive collection of recipes of regional Spanish dishes featuring paprika as an ingredient.

There is an extensive bibliography on the subject in the region, as well as various ongoing research projects.

b) Natural factors

Orography

The production area for paprika is located in the south-east of the Iberian Peninsula in the Murcia Region, which has an area of 11 320 km2). Almost a quarter of that area corresponds to lowlands with an altitude of less than 200 m, 45 % to altitudes ranging between 200 and 600 m and 32 % ranging between 600 and 2 000 m. The relief is complex and the high Baetic Mountains in the north-west are the main feature.

In terms of geology, most of the region is located within the area of the Baetic Mountains, which tend to be surrounded by depressions with materials dating from the Neogene and Quaternary periods. The mountains generally run in a southwestern-northeastern direction.

Soils

Post-orogenic materials are very common in the Region, particularly marl, clay, evaporite rocks and conglomerates.

Quaternary deposits are present in large expanses of plains and river basins, sometimes forming spectacular glacis. These areas generally have the best land for growing both rainfed and irrigated crops.

The soils of the Campo de Cartagena area and the Guadalentín valley used to grow peppers for paprika can be classified as saline. Salinity in soils with lower salt content is structural and inherent in the formation of the soil itself. In other cases it can be due to chlorides added as a result of irrigation.

Climate

The climate is generally classified as subtropical Mediterranean, with maritime characteristics in areas close to the coast. Average potential evapotranspiration levels are high, reaching 180 in many localities in the months of July and August. Combined with the very low average rainfall of less than 300 mm and the high average temperatures, this has an impact on the ecology of the area and the properties of the soil. This is particularly important in the case of the soluble salt content, as this crop requires a continuous supply of irrigation water.

Hydrography

97 % of the Region is located within the Segura river basin. In addition to the main watercourse, which crosses the Region from the Cenajo reservoir to Beniel, there are a number of tributaries, including the river Moratalla, Argos, Quipar, Mula and the Guadalentín on the right bank, the latter of which has a large basin. There are also many large streams which supply brackish water, with the main ones being Moro, Judío, Tinajón, Salada, Agua Amarga, etc.

Most of the irrigation water in the production area for this crop comes from the Tagus-Segura Water Transfer and from existing aquifers which provide water with a high salt content and are currently overexploited. A very significant area of the irrigated land has no resources.

Natural flora and crops

The economy of the Region of Murcia is characterised by its important agriculture and agri-foods sector, which is highly dependent on the availability of water for agricultural use.

Just over 50 % of the total area was occupied by crops in 1996. The rest consists mostly of scrubland and pastures (almost 30 %), followed by forest formations (mainly pines, around 15 %).

Irrigated land accounts for almost 200 000 hectares, but a significant percentage of that is dependent on the availability of water. Almost half of that is devoted to growing fruit and vegetables, followed by stone fruit (peach and apricot trees, etc.), citrus fruit (lemon and orange trees) and to a lesser extent olive trees, trellised vines, forced crops, etc.

Rainfed crops occupy more than 400 000 ha. However, a significant proportion of these are in a state of abandonment. The majority is occupied by cereal plantations with scant production, especially barley, which is often associated with livestock farming. Woody crops include almond and vines and to a lesser extent olive trees, carob, etc.

c) Growing conditions

Peppers are warm climate crops that require heat to thrive. Daytime temperatures of between 20 and 25 °C and night-time temperatures of between 16 °C and 18 °C are deemed to be necessary for optimal development and production. Floral abortions occur when temperatures rise above 32 °C, especially in dry conditions. When there is high relative humidity, the plant tolerates temperatures of more than 40 °C.

The crop requires significant ambient humidity (RH of between 50 and 70 %) especially during the flowering and fruit-setting stages. During the early stages of development, it requires and tolerates a higher relative humidity than in the latter stages.

Peppers also require a lot of light during the growing season, especially during the flowering, fruit-setting and ripening stages. Light levels are therefore a limiting factor. Insufficient light causes the plant to whiten and the internodes and stems to become elongated, meaning they are left weakened and unable to bear the weight of the harvest.

Peppers are propagated by seeds, which are sown in mid-December or early January. Given that the temperatures at that time of year are not suitable for germination or for young plants to develop, special hotbeds known as 'almajaras' are used for the seedlings. Taking the form of rectangular cavities in the ground that are used as hotbeds covered in plastic, they are about 1,5 m wide depending on the length of the ground levelled.

New, amended text:

a) Natural

Orography

The production area for peppers covered by the 'Pimentón de Murcia' PDO is located in the south-east of the Iberian Peninsula and includes municipalities from the Murcia Region, Alicante, Almería and Granada. The relief is complex. The land located in the municipalities of Alhama de Murcia, Beniel, Cartagena, Molina de Segura, Murcia, San Javier, Santomera and Torrepacheco in the Murcia region and Elche, Guardamar del Segura, Pilar de la Horadada and Orihuela in Alicante is at an altitude of less than 200 m. This zone accounts for less than half of the geographical area.

Most of the land is at medium or high altitudes. The municipalities of Caravaca, Fortuna, Librilla, Lorca, Mazarrón, Puerto Lumbreras and Totana in the Murcia region, Orce and Puebla de Don Fadrique in Granada and Pulpí, Vélez Blanco and Vélez Rubio in Almería are at higher altitudes ranging between 200 m and 2 000 m.

This difference in altitude within the defined area determines the growing seasons, which may vary according to climate.

In terms of geology, the geographical area concerned is located within the area of the Baetic Mountains, which are surrounded by depressions containing materials dating from the Neogene and Quaternary periods. The mountains generally run in a southwestern-northeastern direction.

Soils

Post-orogenic materials are very common, particularly marl, clay, evaporite rocks and conglomerates.

Quaternary deposits are present in large expanses of plains and river basins, sometimes forming spectacular glacis. These areas generally have the best land for growing both rainfed and irrigated crops.

The soils of the Campo de Cartagena area and the Guadalentín valley used to grow peppers for paprika can be classified as saline.

The soils in the Vega Baja del Segura and Bajo Vinalopó districts are also classified as being saline, with values above 3 dS/m. Soil salinity in the municipalities of Almería and Granada is variable, with over 7 dS/m recorded in Pulpí.

Salinity in soils with lower salt content is structural and inherent in the formation of the soil itself. In other cases it can be due to chlorides added as a result of irrigation.

Climate

The geographical area is located in the south-east of the Iberian Peninsula, where the climate is temperate with a Mediterranean influence and some continental features. It is characteristically semi-arid, with rainfall of about 200 mm to 500 mm and high average potential evapotranspiration levels, reaching 180 in many localities in July and August.

The temperatures throughout the year can be plotted as a bell-shaped curve, with the lowest being recorded in winter. They start to rise in April and May and reach their peak in July and August.

The very low average rainfall and the high average temperatures in the planting and growing seasons have an impact on the ecology of the area and the properties of the soil. This is particularly important in the case of the soluble salt content, as the crop requires a continuous supply of irrigation water.

Hydrography

The majority of the geographical area is located within the Segura river basin. Other important rivers are the Vélez and Chirivel, which form part of the headwaters of the Guadalentín river basin and pass through the Los Vélez district, and the Huescar river, which has its source in the valley to the east of the Sagra, in the municipality of Puebla de Don Fadrique.

Most of the irrigation water in the production area for this crop comes from the Tagus-Segura Water Transfer and from existing aquifers which provide water with a high salt content and are currently overexploited. A very significant area of the irrigated land has no resources.

Natural flora and crops

The economy of the geographical area covered by the PDO is characterised by its important agriculture and agri-foods sector, which is highly dependent on the availability of water for agricultural use.

Irrigated land accounts for more than 200 000 hectares, but a significant percentage of that is dependent on the availability of water. Almost half of that is devoted to growing fruit and vegetables, followed by stone fruit (peach and apricot trees, etc.), citrus fruit (lemon and orange trees) and to a lesser extent olive trees, trellised vines, forced crops, etc.

Rainfed crops occupy more than 400 000 ha. However, a significant proportion of these are in a state of abandonment. The majority is occupied by cereal plantations with scant production, especially barley, which is often associated with livestock farming. Woody crops include almond and vines and to a lesser extent olive trees, carob, etc.

c) Growing conditions

Peppers covered by the ‘Pimentón de Murcia’ PDO are warm climate crops that require heat to thrive. Daytime temperatures of between 20 °C and 25 °C and night-time temperatures of between 16 °C and 18 °C are deemed to be necessary for optimal development and production. Floral abortions occur when temperatures rise above 32 °C, especially in dry conditions. When there is high relative humidity, the plant tolerates temperatures of more than 40 °C.

The crop requires significant ambient humidity (RH of between 50 % and 70 %) especially during the flowering and fruit-setting stages. During the early stages of development, it requires and tolerates a higher relative humidity than in the latter stages.

Peppers covered by the 'Pimentón de Murcia' PDO also require a lot of light during the growing season, especially during the flowering, fruit-setting and ripening stages. Light levels are therefore a limiting factor. Insufficient light causes the plant to whiten and the internodes and stems to become elongated, meaning they are left weakened and unable to bear the weight of the harvest.

As well as the growing conditions, the human factor, i.e. the expertise of the producers, also has an impact on the production of peppers covered by the 'Pimentón de Murcia' PDO.

That is why the production process for peppers covered by the 'Pimentón de Murcia' PDO is based on the know-how of the producers. Plot selection, the system used to prepare the soil for sowing, seed selection, planting and harvesting all have a direct impact on the characteristics of the end product. This is why producers familiar with the needs of the pepper crop for 'Pimentón de Murcia' PDO have been able to extend their crops to adjacent land with the same natural characteristics, particularly as regards temperature, humidity and light levels.

Propagation is carried out using seeds selected from the best plants in the previous harvest (normally the first picking) and from sun-dried peppers preserved in minimal light and cool temperature conditions. Seeds would traditionally be kept in earthenware jars or tin boxes in order to guarantee these conditions of minimal light and cool temperature until sowing time.

After the seeds are selected, it is time for them to be sown. A generous amount of fertiliser or manure is added at the time of sowing and seeds are protected from the cold. Checks are conducted on the seeds sown in mid-December or early January. Given that the temperatures at that time of year are not suitable for germination or for young plants to develop, producers used to set up special hotbeds known as 'almajaras' for the seedlings. To protect against the cold, they were covered with reeds or brushwood and a fine layer of top soil followed by gravel to prevent the surface from hardening into a crust. The 'almajaras' consisted of rectangular hollows in the soil, about 1.5 m wide and with a length that would depend on how level the plot was. The seeds would be sown in the middle, forming a kind of line. These days plastic covers known as 'planteles' are used to protect against the cold, with the same hotbed function as the 'almajaras'. Alternatively, the seeds are sown in a honeycomb formation on sowing trays with a good substrate, as this ensures that the seeds (selected by farmers or certified) can be kept in optimal controlled temperature conditions by the staff in charge.

Planting is never carried out before 15 April. The date that has traditionally been considered best for avoiding frost is 25 April, the feast of St Mark. Planting is carried out in grooves or using a plastic base, with seedlings being placed a hand span apart in a triangular layout. They are then irrigated by flooding or on a localised level to enable better control of scarce water and fertilisers.

The timing of the harvest is crucial in obtaining peppers with the sensory characteristics of the product covered by the PDO. Peppers are harvested by hand and only those that are fully ripe are picked. It is the producers, with their product expertise, that determine when the time is right. They are able to distinguish which peppers on each plant have attained optimal ripeness, i.e. maximum colour intensity, highest natural pigment content and minimum water content.

After the peppers were picked, they would be spread out on a kind of wattle or laid out on the slopes of the hillocks, depending on how big or small the batch was, until they became dehydrated by the heat of the sun. This traditional drying method has been preserved over the years, although drying chambers have also been introduced.

Reason:

The section on the link has been amended as regards the information on the geographical area, but not as regards its inherent characteristics or how these characteristics help to make the product distinctive. The references to the area and the volume of production have also been amended, since they were previously restricted to the Murcia Region.

The initial application was limited to the Murcia Region because the area devoted to pepper production was larger there than elsewhere and because that was also where the main drying chambers and pepper mills were originally located. Pepper cultivation varies according to the availability of water and therefore from one year to the next. The peppers originally grown in these parts of the provinces of Murcia, Almería, Granada and Alicante for the production of paprika had similar characteristics linked to the geographical area. They also tended to be mostly milled and dried in Murcia. As the pepper drying and milling plants were historically located in Murcia, the resulting paprika was recognised as 'Pimentón de Murcia'. At the time of applying for PDO status, this was the name for which protection was sought and therefore the geographical area was restricted to this region. The areas where pepper used to be grown, which now cover an even larger territory, were left out of the PDO even though they had the same product characteristics and used to be sold under the same name.

The production areas ranged from districts in Alicante to districts in Almería or Granada, including the entire province of Murcia, which is located in the centre of that territory. The crops were moved to different plots in the territory, depending on the conditions in each particular year and factors such as blights, the better water availability of certain aquifers or crops that were more profitable for farmers. Thus different plots were allocated every year and the production of peppers for paprika varied according to market fluctuations.

Such fluctuations have for many years led to the loss of cultivated areas, which are now being recuperated given that producers are more interested in promoting their territory to compete against imported products which in no way compare with the quality of their original product.

The description confirming the human know-how and its impact on the specificity of the product has been added as an important part of the link.

The historical descriptions and references to books and bibliographic sources have been deleted from the section on the link.

Single Document

This amendment is included in section 5. Link with the geographical area.

The amendment is considered not minor for sections B, C and F because it relates to the essential characteristics of the product, modifies the link and affects the geographical area.

4. *Section G) Control body*

Current text:

G) CONTROL BODY

Checks and certification are to be carried out on a provisional basis by the competent authority: Directorate-General for Agri-Food Structures and Industries in the Regional Ministry of Agriculture, Water and the Environment, until the relevant Regulatory Board composed of representatives from the production and processing sectors has been set up and met the requirements of Standard EN 45011.

New, amended text:

G) CONTROL BODY

Controls and certification are delegated by the competent authority – the Directorate-General for Agri-Food Structures and Industries in the Regional Ministry of Agriculture, Water and the Environment – to the Regulatory Board for the 'Pimentón de Murcia' PDO, which is formed by representatives from the production and processing sector and accredited according to standard ISO/IEC 17065.

Reason:

The definition of the body that will carry out the checks has been amended. The competent authority has delegated the certification role to the Regulatory Board for the PDO 'Pimentón de Murcia'. Furthermore, the applicable standard, ISO/IEC 17065 'Requirements for bodies certifying products, processes and services', approved in September 2012, has been updated, leading to the annulment of standard UNE-EN 45011:1998 which was in force at the time. To allow organisations that were already bound by the requirements of the previous standard to adapt to the new requirements, a transitional period of three years was established from the date of the approval. This period has now ended.

In the process of applying for the amendment to the specification, the Regulatory Council for the 'Pimentón de Murcia' PDO has obtained UNE-EN ISO/IEC 17065 accreditation.

5. *Section I) Requirements laid down by Community and/or national provisions*

Current text:

I) REQUIREMENTS LAID DOWN BY COMMUNITY AND/OR NATIONAL PROVISIONS

— Law 25/1970 'Vine, Wine and Alcohol Statute', if a Regulatory Board is set up to act as a control body.

— Royal Decree 2242/1984 of 26 September 1984 adopting the technical and health rules for the manufacture, marketing and use of pesticides. (Official State Gazette (B.O.E.) No 306 of 22 December 1984).

New, amended text:

I) REQUIREMENTS LAID DOWN BY COMMUNITY AND/OR NATIONAL PROVISIONS

— Royal Decree 2242/1984 of 26 September 1984 adopting the technical and health rules for the manufacture, marketing and use of pesticides. (Official State Gazette (B.O.E.) No 306 of 22 December 1984).

— Order of 20 April 2001 of the Regional Ministry of Agriculture, Water and the Environment establishing the Regulatory Board for the Designation of Origin 'Pimentón de Murcia'.

— Order of 17 December 2001 of the Regional Ministry of Agriculture, Water and the Environment approving the rules for the Designation of Origin 'Pimentón de Murcia' and its Regulatory Board.

— Royal Decree 1335/2011 of 3 October 2011 establishing the procedure for processing applications for the registration of protected designations of origin and protected geographical indications and objections to such applications

Reason:

This paragraph is amended to bring the applicable rules into alignment with current legislation.

The amendments under sections G and I do not affect the single document.

SINGLE DOCUMENT

'PIMENTÓN DE MURCIA'

EU No: PDO-ES-0113-AM02 – 2.2.2021

PDO (X) PGI ( )

1. **Name(s) [of PDO or PGI]**

'Pimentón de Murcia'

2. **Member State or Third Country**

Spain

3. **Description of the agricultural product or foodstuff**

3.1. *Type of product*

Class 1.8. Other products from Annex I to the Treaty (spices, etc.)

3.2. *Description of the product to which the name in (1) applies*

Product resulting from the milling of completely red peppers of the genus *Capsicum annuum* L., 'Bola' variety. The peppers used must be harvested, ripe, healthy, clean, dry and entirely free from pests or diseases and they must be grown in the demarcated production area.

Organoleptic characteristics:

The *pimentón* is entirely sweet, with a characteristically strong aroma, high colouring power, fat content and distinctive taste. It is shiny red in colour. It is very stable in terms of colour and aroma.

Physico-chemical characteristics:

Particle size: the *pimentón* must be milled so that it passes through a No 16 sieve or screen on the ASTM scale (equivalent to a 1,19 mm mesh).

— Metallic residues: maximum arsenic 1 p.p.m. and maximum lead 4 p.p.m.

— Food or food ingredients: addition of edible vegetable oils up to a maximum of 8 % of the dry product by mass.

— Foreign matter: There is a ban on the addition of seeds from other varieties of peppers used in the manufacture of canned peppers, placentas, calyces and stalks in a greater proportion than that of the fruit itself, artificial colourings and other substances affecting the parameter values defining the qualities.

Analytical characteristics of paprika in the commercial category Extra:

— Colour (at the time of milling) — Minimum ASTA units: ≥ 120

— Maximum humidity expressed as %: ≤ 14 %

— Maximum ether extract of dry matter expressed as %: ≤ 20 %

— Maximum ash in dry matter expressed as %:

  — Totals: ≤ 9,4 %

  — Insoluble: ≤ 0,7 %

  — Raw fibre in dry matter expressed as %: 27 %

  — Maximum capsaicin expressed as %: ≤ 0,003 %

Analytical characteristics of paprika in the commercial category Primera (Class I):

— Colour (at the time of milling) — Minimum ASTA units: ≥ 90

— Maximum humidity expressed as %: ≤ 14 %

— Maximum ether extract of dry matter expressed as %: ≤ 23 %

— Maximum ash in dry matter expressed as %:

  — Totals: ≤ 9,9 %

  — Insoluble: ≤ 1 %

  — Raw fibre in dry matter expressed as %: 28 %

  — Maximum capsaicin expressed as %: ≤ 0,003 %

3.3. *Feed (for products of animal origin only) and raw materials (for processed products only)*

Both products, paprika in the commercial category 'Extra' and paprika in the commercial category 'Primera' [Class I] must be made from completely red peppers of the genus Capsicum annuum L., 'Bola' or 'Americano' varieties, grown in the production area.

3.4. *Specific steps in production that must take place in the identified geographical area*

Production of the raw material and production of the protected product.

The stages in the production or cultivation of the raw material include the hotbox, land preparation, fertilisation, planting, transplantation, irrigation and fertilisation.

The processing stages include harvesting, drying the peppers and milling the dried shells.

3.5. *Specific rules concerning slicing, grating, packaging, etc. of the product the registered name refers to*

The milling and packaging process must take place quickly and in proximity, so as to preserve the specific characteristics of the product and avoid possible changes in moisture which would affect its subsequent preservation.

It is therefore considered that 'Pimentón de Murcia' PDO must be packaged within the defined area, as the next step after milling, in order to maintain its quality and specific characteristics and guarantee product traceability and control.

3.6. *Specific rules concerning labelling of the product the registered name refers to*

The packaging of the products covered by the Protected Designation of Origin 'Pimentón de Murcia' intended for consumption must be identified by a numbered label or secondary label, which must be supplied in advance by the Regulatory Board in accordance with the applicable rules.

The label for the protected paprika must prominently feature the words 'Denominación de Origen "Pimentón de Murcia"', the commercial category 'Extra' or 'Primera' [Class I] and the type of drying process employed, either 'Secado al sol' [sun-dried] or 'Secado en secadero' [Dried in drying chamber], in addition to the information and requirements laid down in the applicable legislation.

The words 'Pimientos desrabados' [destalked peppers], 'Pimientos sin rabo' [peppers with no stalk] or 'Pimientos sin pedúnculo' [peppers without stalks] may be featured on an optional basis.

4. Concise definition of the geographical area

The defined geographical area comprises the following municipalities in the provinces of Murcia, Almería, Granada and Alicante:

— Province of Murcia: Alhama de Murcia, Beniel, Caravaca, Cartagena, Fortuna, Fuente Álamo, Librilla, Lorca, Mazarrón, Molina de Segura, Murcia, Puerto Lumbreras, San Javier, Santomera, Torre Pacheco and Totana.

— Province of Almería: Pulpí, Velez Blanco and Velez Rubio.

— Province of Granada: Orce and Puebla de Don Fadrique.

— Province of Alicante: Elche, Guardamar del Segura, Orihuela, Pilar de la Horadada and Torrevieja.

5. Link with the geographical area

Specificity of the product

The specificity of the product, which makes 'Pimentón de Murcia' unique from other paprikas, is determined by its organoleptic and physico-chemical characteristics as defined in point 3.2.

Causal link between the quality and characteristics of the product described in the product specification:

This is reflected in the following natural and human factors:

Natural factors

The production area for peppers covered by the 'Pimentón de Murcia' PDO is located in the south-east of the Iberian Peninsula and includes municipalities from the Murcia Region, Alicante, Almería and Granada. The relief is complex. The land located in the municipalities of Alhama de Murcia, Beniel, Cartagena, Molina de Segura, Murcia, San Javier, Santomera and Torrepacheco in the Murcia region and Elche, Guardamar del Segura, Pilar de la Horadada and Orihuela in Alicante is at an altitude of less than 200 m. This zone accounts for less than half of the geographical area.

Most of the land is at medium or high altitudes. The municipalities of Caravaca, Fortuna, Librilla, Lorca, Mazarrón, Puerto Lumbreras and Totana in the Murcia region, Orce and Puebla de Don Fadrique in Granada and Pulpí, Vélez Blanco and Vélez Rubio in Almería are at higher altitudes ranging between 200 m and 2 000 m.

This difference in altitude within the defined area determines the growing seasons, which may vary according to climate.

Post-orogenic materials are very common in the geographical area concerned, particularly marl, clay, evaporite rocks and conglomerates.

Quaternary deposits are present in large expanses of plains and river basins, sometimes forming spectacular glacis. These areas generally have the best land for growing both rainfed and irrigated crops.

The soils used to grow peppers covered by the 'Pimentón de Murcia' PDO can be classified as saline. Salinity in soils with lower salt content is structural and inherent in the formation of the soil itself. In other cases it can be due to chlorides added as a result of irrigation.

In general, the climate is temperate, with a Mediterranean influence and some continental features. It is characteristically semi-arid, with rainfall of about 200 mm to 500 mm and high average potential evapotranspiration levels, reaching 180 in many localities in July and August.

Peppers covered by the 'Pimentón de Murcia' PDO are warm climate crops that require heat to thrive. Daytime temperatures of between 20 °C and 25 °C and night-time temperatures of between 16 °C and 18 °C are deemed to be necessary for optimal development and production. Floral abortions occur when temperatures rise above 32 °C, especially in dry conditions. When there is high relative humidity, the plant tolerates temperatures of more than 40 °C.

The crop requires significant ambient humidity (RH of between 50 % and 70 %) especially during the flowering and fruit-setting stages. During the early stages of development, it requires and tolerates a higher relative humidity than in the latter stages.

Peppers also require a lot of light during the growing season, especially during the flowering, fruit-setting and ripening stages. Light levels are therefore a limiting factor. Insufficient light causes the plant to whiten and the internodes and stems to become elongated, meaning they are left weakened and unable to bear the weight of the harvest.

Conditions are similar in the defined geographical area at different times of the year, with the result that the sowing and harvesting seasons can be extended in certain locations.

Human factors

As well as the growing conditions, the human factor, i.e. the expertise of the producers, also has an impact on the production of peppers covered by the 'Pimentón de Murcia' PDO.

That is why the production process for peppers covered by the 'Pimentón de Murcia' PDO is based on the know-how of the producers. Plot selection, the system used to prepare the soil for sowing, seed selection, planting and harvesting all have a direct impact on the characteristics of the end product. This is why producers familiar with the needs of the pepper crop for 'Pimentón de Murcia' PDO have been able to extend their crops to land with the same natural characteristics, particularly as regards temperature, humidity and light levels.

Propagation is carried out using seeds selected from the best plants in the previous harvest (normally the first picking) and from sun-dried peppers preserved in minimal light and cool temperature conditions. Seeds would traditionally be kept in earthenware jars or tin boxes in order to guarantee these conditions of minimal light and cool temperature until sowing time.

After the seeds are selected, it is time for them to be sown. A generous amount of fertiliser or manure is added at the time of sowing and seeds are protected from the cold. Checks are conducted on the seeds sown in mid-December or early January. Given that the temperatures at that time of year are not suitable for germination or for young plants to develop, producers used to set up special hotbeds known as 'almajaras' for the seedlings. To protect against the cold, they were covered with reeds or brushwood and a fine layer of top soil followed by gravel to prevent the surface from hardening into a crust. The 'almajaras' consisted of rectangular hollows in the soil, about 1,5 m wide and with a length that would depend on how level the plot was. The seeds would be sown in the middle, forming a kind of line. These days plastic covers known as 'planteles' are used to protect against the cold, with the same hotbed function as the 'almajaras'. Alternatively, the seeds are sown in a honeycomb formation on sowing trays with a good substrate, as this ensures that the seeds (selected by farmers or certified) can be kept in optimal controlled temperature conditions by the staff in charge.

'Pimentón de Murcia' is valued both as colouring and seasoning, and these characteristics depend on the variety and the fact that the pepper crop is grown in saline soils under the conditions described above. The staggered harvesting of the peppers by hand is also of crucial importance and has a direct impact on the end product, because it allows the peppers to be selected when they are at their ripest, which is when colour intensity is at a maximum and water content at a minimum.

Planting is never carried out before 15 April. The date that has traditionally been considered best for avoiding frost is 25 April, the feast of St Mark. Planting is carried out in grooves or using a plastic base, with seedlings being placed a hand span apart in a triangular layout. They are then irrigated by flooding or on a localised level to enable better control of scarce water and fertilisers.

The timing of the harvest is crucial in obtaining peppers with the sensory characteristics of the product covered by the PDO. Peppers are harvested by hand and only those that are fully ripe are picked. It is the producers, with their product expertise, that determine when the time is right. They are able to distinguish which peppers on each plant have attained optimal ripeness, i.e. maximum colour intensity, highest natural pigment content and minimum water content.

After the peppers were picked, they would be spread out on a kind of wattle or laid out on the slopes of the hillocks, depending on how big or small the batch was, until they became dehydrated by the heat of the sun. This traditional drying method has been preserved over the years, although drying chambers have also been introduced.

The drying and subsequent milling of the peppers are essential processes for preserving the characteristics of the fresh peppers in the end product, 'Pimentón de Murcia' paprika. Both the traditional drying method (in which the peppers are dried by direct exposure to sunlight) and the method involving hot air and controlled time and temperature produce pepper 'shells' with a moisture content of less than or equal to 14 %. This dehydration is maintained until the milling stage by keeping the shells in dry premises, so that the 'crushing' they undergo in the hammer mill can bring out all the oils that give the product covered by the PDO its distinctive characteristics.

This production and processing system has remained unchanged since the first seeds were brought over from America in the 16th century. The growing system throughout the Mediterranean area spread according to the climate conditions and to make the most of the saline soils. The initial production in the Segura valley spread to neighbouring areas such as Campo de Cartagena, Campo de Elche and the Guadalentín valley, with the latter being the largest production area.

Reference to publication of the specification

https://www.mapa.gob.es/es/alimentacion/temas/calidad-diferenciada/dop-igp/htm/DOP_Pimenton_Murcia_modif_mayor.aspx

ISSN 1977-091X (electronic edition)
ISSN 1725-2423 (paper edition)

Publications Office
of the European Union
L-2985 Luxembourg
LUXEMBOURG

EN