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**Changes to legislation:** There are outstanding changes not yet made to Commission Delegated Regulation (EU) No 639/2014. Any changes that have already been made to the legislation appear in the content and are referenced with annotations. (See end of Document for details) View outstanding changes

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## [<sup>F1</sup>ANNEX III

### Union method for the quantitative determination of the $\Delta 9$ -tetrahydrocannabinol content in hemp varieties

#### Textual Amendments

**F1** Inserted by Commission Delegated Regulation (EU) 2017/1155 of 15 February 2017 amending Delegated Regulation (EU) No 639/2014 as regards the control measures relating to the cultivation of hemp, certain provisions on the greening payment, the payment for young farmers in control of a legal person, the calculation of the per unit amount in the framework of voluntary coupled support, the fractions of payment entitlements and certain notification requirements relating to the single area payment scheme and the voluntary coupled support, and amending Annex X to Regulation (EU) No 1307/2013 of the European Parliament and of the Council.

#### 1. Scope

The method set out in this Annex seeks to determine the  $\Delta 9$ -tetrahydrocannabinol (hereinafter referred to as THC) content of varieties of hemp (*Cannabis sativa* L.). As appropriate, the method involves applying procedure A or B as described in this Annex.

The method is based on the quantitative determination of THC by gas chromatography (GC) after extraction with a suitable solvent.

##### 1.1. Procedure A

Procedure A shall be used for checks on the production of hemp as referred to in Article 32(6) of Regulation (EU) No 1307/2013 and Article 30(g) of Commission Implementing Regulation (EU) No 809/2014<sup>(1)</sup>.

##### 1.2. Procedure B

Procedure B shall be used in cases as referred to in Article 36(6) of Implementing Regulation (EU) No 809/2014.

#### 2. Sampling

##### 2.1. Samples

The samples shall be taken during the day following a systematic pattern to ensure that the sample is representative of the field, but excluding the edges of the crop.

2.1.1. Procedure A: in a standing crop of a given variety of hemp, a 30 cm part containing at least one female inflorescence of each plant selected shall be taken. Sampling shall be carried out during the period running from 20 days after the start of flowering to 10 days after the end of flowering.

Member States may authorise sampling to be carried out during the period from the start of flowering to 20 days after the start of flowering provided that, for each variety grown, other representative samples are taken in accordance with the first subparagraph during the period from 20 days after the start of flowering to 10 days after the end of flowering.

For hemp cultivated as catch crop, in the absence of female inflorescences, the top 30 cm of the plant stem shall be taken. In that case sampling shall be carried out just before the end of the vegetation period, once the leaves begin presenting the first signs of yellowing, however no later than the onset of a forecast period of frost.

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2.1.2. Procedure B: in a standing crop of a given variety of hemp, the upper third of each plant selected shall be taken. Sampling shall be carried out during the 10 days following the end of flowering or, for hemp cultivated as catch crop, in the absence of female inflorescences, just before the end of the vegetation period, once the leaves begin presenting the first sign of yellowing, but no later than the onset of a forecast period of frost. In the case of dioecious varieties, only female plants shall be taken.

## 2.2. *Sample size*

Procedure A: the sample shall comprise parts of 50 plants per field.

Procedure B: the sample shall comprise parts of 200 plants per field.

Each sample shall be placed in a fabric or paper bag, without crushing it, and be sent to the laboratory for analysis.

The Member State may provide for a second sample to be collected for counteranalysis, if required, to be kept either by the producer or by the body responsible for the analysis.

## 2.3. *Drying and storage of the sample*

Drying of the samples shall begin as soon as possible and, in any case, within 48 hours using any method below 70 °C.

Samples shall be dried to a constant weight and to a moisture content of between 8 % and 13 %.

After drying, the samples shall be stored without crushing them at below 25 °C in a dark place.

## 3. **Determination of THC content**

### 3.1. *Preparation of the test sample*

Stems and seeds over 2 mm in size shall be removed from the dried samples.

The dried samples shall be grinded to obtain a semi-fine powder (passing through a 1 mm mesh sieve).

The powder may be stored for 10 weeks at below 25 °C in a dark, dry place.

### 3.2. *Reagents and extraction solution*

Reagents

- $\Delta^9$ -tetrahydrocannabinol, pure for chromatographic purposes,
- squalane, pure for chromatographic purposes, as an internal standard.

Extraction solution

- 35 mg of squalane per 100 ml hexane.

### 3.3. *Extraction of THC*

100 mg of the powdered test sample shall be weighed, be placed in a centrifuge tube and 5 ml of extraction solution shall be added containing the internal standard.

The sample shall be placed in an ultrasound bath and be left for 20 minutes. It shall be centrifuged for 5 minutes at 3 000 r.p.m. and then the supernatant THC solution shall be removed. The solution shall be injected into the chromatograph and a quantitative analysis shall be carried out.

### 3.4. *Gas chromatography*

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- (a) Apparatus
- gas chromatograph with a flame ionisation detector and a split/splitless injector,
  - column allowing good separation of cannabinoids, for example a glass capillary column 25 m long and 0,22 mm in diameter impregnated with a 5 % non-polar phenyl-methyl-siloxane phase.

- (b) Calibration ranges

At least three points for procedure A and five points for procedure B, including points 0,04 and 0,50 mg/ml THC in extraction solution.

- (c) Experimental conditions

The following conditions are given as an example for the column referred to in (a):

- oven temperature 260 °C,
- injector temperature 300 °C,
- detector temperature 300 °C.

- (d) Volume injected: 1 µl.

#### 4. Results

The findings shall be expressed to two decimal places in grams of THC per 100 grams of analytical sample dried to constant weight. A tolerance of 0,03 g per 100 g shall apply.

- Procedure A: one determination per test sample.

However, where the result obtained is above the limit laid down in Article 32(6) of Regulation (EU) No 1307/2013, a second determination shall be carried out per analysis sample and the mean value of the two determinations shall be taken as the result.

- Procedure B: the result shall correspond to the mean value of two determinations per test sample.]

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- (1) [<sup>F1</sup>Commission Implementing Regulation (EU) No 809/2014 of 17 July 2014 laying down rules for the application of Regulation (EU) No 1306/2013 of the European Parliament and of the Council with regard to the integrated administration and control system, rural development measures and cross compliance (OJ L 227, 31.7.2014, p. 69).]

#### Textual Amendments

- F1** Inserted by [Commission Delegated Regulation \(EU\) 2017/1155 of 15 February 2017 amending Delegated Regulation \(EU\) No 639/2014 as regards the control measures relating to the cultivation of hemp, certain provisions on the greening payment, the payment for young farmers in control of a legal person, the calculation of the per unit amount in the framework of voluntary coupled support, the fractions of payment entitlements and certain notification requirements relating to the single area payment scheme and the voluntary coupled support, and amending Annex X to Regulation \(EU\) No 1307/2013 of the European Parliament and of the Council.](#)

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### Changes and effects yet to be applied to :

- Regulation coming into force by [2020 c. 2 s. 14](#) (Regulation as it has effect for the claim year 2020 brought into domestic law on exit day by virtue of Direct Payments to Farmers (Legislative Continuity) Act 2020 (c. 2), ss. 1, 4, 9(3))

### Changes and effects yet to be applied to the whole legislation item and associated provisions

- Annex 1 omitted by [S.I. 2019/208 reg. 10](#) (This effect not applied - S.I. 2019/208 revoked immediately before IP Completion day by virtue of S.I. 2020/1445, regs. 1(2)(b), 24(b))
- Annex 1 omitted by [S.I. 2020/91 reg. 16](#)
- Art. 1(c) omitted by [S.I. 2019/208 reg. 4\(1\)](#) (This effect not applied - S.I. 2019/208 revoked immediately before IP Completion day by virtue of S.I. 2020/1445, regs. 1(2)(b), 24(b))
- Art. 1(c) omitted by [S.I. 2020/91 reg. 10\(1\)](#)
- art. 1(d) omitted by [S.R. 2021/42 reg. 5\(2\)](#)
- Art. 1(d) omitted by [S.I. 2020/1387 reg. 6\(2\)](#)
- Art. 1(d) omitted by [S.I. 2020/1556 reg. 8\(2\)](#)
- Art. 1(f) omitted by [S.I. 2020/1513 reg. 3\(2\)](#)
- Art. 1(g) omitted by [S.I. 2019/208 reg. 4\(1\)](#) (This effect not applied - S.I. 2019/208 revoked immediately before IP Completion day by virtue of S.I. 2020/1445, regs. 1(2)(b), 24(b))
- Art. 1(g) omitted by [S.I. 2020/91 reg. 10\(1\)](#)
- Art. 1(h) omitted by [S.I. 2019/208 reg. 4\(1\)](#) (This effect not applied - S.I. 2019/208 revoked immediately before IP Completion day by virtue of S.I. 2020/1445, regs. 1(2)(b), 24(b))
- Art. 1(h) omitted by [S.I. 2020/91 reg. 10\(1\)](#)
- Annex 2 omitted by [S.R. 2021/42 reg. 5\(4\)](#)
- Annex 2 omitted by [S.I. 2020/1387 reg. 6\(4\)](#)
- Annex 2 omitted by [S.I. 2020/1556 reg. 8\(12\)](#)
- Annex 3 title word omitted by [S.I. 2019/208 reg. 11\(a\)](#) (This effect not applied - S.I. 2019/208 revoked immediately before IP Completion day by virtue of S.I. 2020/1445, regs. 1(2)(b), 24(b))
- Annex 3 title word omitted by [S.I. 2020/91 reg. 17\(a\)](#)
- Annex 3 para. 2.1.1 words substituted by [S.I. 2019/208 reg. 11\(b\)](#) (This effect not applied - S.I. 2019/208 revoked immediately before IP Completion day by virtue of S.I. 2020/1445, regs. 1(2)(b), 24(b))
- Annex 3 para. 2.2 words substituted by [S.I. 2019/208 reg. 11\(c\)](#) (This effect not applied - S.I. 2019/208 revoked immediately before IP Completion day by virtue of S.I. 2020/1445, regs. 1(2)(b), 24(b))
- Annex 3 para. 2.1.1 words substituted by [S.I. 2020/91 reg. 17\(b\)](#)
- Annex 3 para. 2.2 words substituted by [S.I. 2020/91 reg. 17\(c\)](#)
- Annex 4 inserted by [S.I. 2019/208 reg. 12](#) (This effect not applied - S.I. 2019/208 revoked immediately before IP Completion day by virtue of S.I. 2020/1445, regs. 1(2)(b), 24(b))
- Annex 4 inserted by [S.I. 2020/91 reg. 18](#)
- Art. 4(1)(a) words substituted by [S.I. 2019/208 reg. 4\(3\)\(a\)\(ii\)\(aa\)](#) (This effect not applied - S.I. 2019/208 revoked immediately before IP Completion day by virtue of S.I. 2020/1445, regs. 1(2)(b), 24(b))

- Art. 4(1)(a) words substituted by S.I. 2019/208 reg. 4(3)(a)(ii)(bb) (This effect not applied - S.I. 2019/208 revoked immediately before IP Completion day by virtue of S.I. 2020/1445, regs. 1(2)(b), 24(b))
- Art. 4(1)(a) words substituted by S.I. 2020/91 reg. 10(4)(a)(ii)(aa)
- Art. 4(1)(a) words substituted by S.I. 2020/91 reg. 10(4)(a)(ii)(bb)
- Art. 4(1)(b) words substituted by S.I. 2019/208 reg. 4(3)(a)(iii) (This effect not applied - S.I. 2019/208 revoked immediately before IP Completion day by virtue of S.I. 2020/1445, regs. 1(2)(b), 24(b))
- Art. 4(1)(b) words substituted by S.I. 2020/91 reg. 10(4)(a)(iii)
- Art. 13(2)(b) omitted by S.I. 2019/208 reg. 4(10)(b)(i)(cc) (This effect not applied - S.I. 2019/208 revoked immediately before IP Completion day by virtue of S.I. 2020/1445, regs. 1(2)(b), 24(b))
- Art. 13(2)(b) omitted by S.I. 2020/91 reg. 10(11)(b)(i)(cc)
- Art. 41(f) omitted by S.I. 2019/208 reg. 6(4)(a) (This effect not applied - S.I. 2019/208 revoked immediately before IP Completion day by virtue of S.I. 2020/1445, regs. 1(2)(b), 24(b))
- Art. 41(f) omitted by S.I. 2020/91 reg. 12(3)(b)
- Art. 44(2)(b) words omitted by S.I. 2020/91 reg. 12(6)(b)(ii)(bb)
- Art. 45(12) inserted by S.S.I. 2022/279 reg. 3(2)(b)
- Art. 49(1)(a) words omitted by S.I. 2019/208 reg. 7(a)(i) (This effect not applied - S.I. 2019/208 revoked immediately before IP Completion day by virtue of S.I. 2020/1445, regs. 1(2)(b), 24(b))
- Art. 49(1)(a) words omitted by S.I. 2020/91 reg. 13(a)(i)
- Art. 49(1)(b) words omitted by S.I. 2020/576 reg. 4(3)
- Art. 49(1)(c) words substituted by S.I. 2019/208 reg. 7(a)(ii)(aa) (This effect not applied - S.I. 2019/208 revoked immediately before IP Completion day by virtue of S.I. 2020/1445, regs. 1(2)(b), 24(b))
- Art. 49(1)(c) words substituted by S.I. 2019/208 reg. 7(a)(ii)(bb) (This effect not applied - S.I. 2019/208 revoked immediately before IP Completion day by virtue of S.I. 2020/1445, regs. 1(2)(b), 24(b))
- Art. 49(1)(c) words substituted by S.I. 2020/91 reg. 13(a)(ii)(aa)
- Art. 49(1)(c) words substituted by S.I. 2020/91 reg. 13(a)(ii)(bb)
- Art. 49(3)(a) word omitted by S.I. 2020/1556 reg. 8(9)
- Art. 49(3)(a) words substituted by S.I. 2019/208 reg. 7(c)(i) (This effect not applied - S.I. 2019/208 revoked immediately before IP Completion day by virtue of S.I. 2020/1445, regs. 1(2)(b), 24(b))
- Art. 49(3)(a) words substituted by S.I. 2020/91 reg. 13(c)(i)
- Art. 49(3)(b) words omitted by S.I. 2019/208 reg. 7(c)(ii) (This effect not applied - S.I. 2019/208 revoked immediately before IP Completion day by virtue of S.I. 2020/1445, regs. 1(2)(b), 24(b))
- Art. 49(3)(b) words omitted by S.I. 2020/91 reg. 13(c)(ii)
- Art. 53(2)(a) words inserted by S.I. 2020/576 reg. 4(4)
- Art. 53(2)(a) words inserted by S.I. 2020/1556 reg. 8(10)
- Art. 53(2)(b) words inserted by S.I. 2020/576 reg. 4(4)
- Art. 53(2)(b) words inserted by S.I. 2020/1556 reg. 8(10)
- Art. 54(2)(a) word omitted by S.I. 2019/208 reg. 8(4)(b)(ii) (This effect not applied - S.I. 2019/208 revoked immediately before IP Completion day by virtue of S.I. 2020/1445, regs. 1(2)(b), 24(b))
- Art. 54(2)(a) word omitted by S.I. 2020/91 reg. 14(4)(b)(ii)