



**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB 23200.18-2016

Replacing NY/T 1726-2009

**Food safety national standard -- Determination of 15
Substituted Urea Herbicide Residues in Vegetables by Non --
Grass Long and Liquid Chromatography**

蔬菜中非草隆等15种取代脲类除草剂残留量的测定 液相色谱法

(English Translation)

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15 Grass less long neburon	29.446 0.50 0.015

Foreword

This standard replaces NY/T 1726-2009 "Determination of 15 kinds of substituted ureas herbicides in vegetables such as non-grassland and other liquid chromatography." this standard is compared with NY/T 1726-2009 as follows.

- the standard name has been modified to increase the national standard for food safety;
- modified in accordance with the format of the food safety standard.
- normative reference documents to increase the GB 2763 "maximum pesticide residues in

food" standard;

- the preparation of the sample to increase the sampling site requirements and refine the requirements of the preparation of the sample;
- Increased precision requirements.

National standards for food safety Determination of 15 Substituted Urea Herbicide Residues in Vegetables by Non - Grass Long and Liquid Chromatography

1 Scope

This standard stipulates that vegetables are not grass-long, Ding thylonon, methomyl dragon, metaprolone, chlorotoluron, fluroxides, isoproturon, diuron, green valley Determination of 15 kinds of substituted ureas herbicides in liquid, such as Long, Bromoglossone, Acetylmethrin, Cyclosulfuron, Liguron, Chlorpromethyl, Method.

This standard applies to the determination of the above 15 kinds of substituted ureas herbicides in vegetables.

2 Normative reference documents

The following documents are indispensable for the application of this document. For dated filing applications, only the dated edition applies to this article Pieces. For undated references, the latest edition (including all modifications) applies to this document.

GB 2763 National Standard for Food Safety - Maximum Residue Limit of Pesticides in Foodstuffs GB/T 6682 Analytical laboratory water specifications and test methods

3 Principle

The samples were extracted by acetonitrile, and the extracts were salted out and purified by florisil silica solid phase extraction. After the samples were concentrated, After separation by C18, the sample was decomposed into primary amine by photolysis reactor and reacted with OPA to form a fluorescent substance. After the excitation wavelength was 350 nm, the emission wavelength was measured at 450 nm, and quantified according to the retention time.

4 Reagents and materials

Unless otherwise stated, only chromatographic pure reagents are used in the analysis, and water is the primary water specified in GB/T 6682.

4.1 Reagents

4.1.1

Acetonitrile (CH_3CN).

4.1.2

Methanol (CH_3OH).

4.1.3

Acetone ($\text{C}_2\text{H}_6\text{CO}$).

4.1.4

n-hexane (C_6H_{14}).

4.1.5

isopropanol ($\text{C}_3\text{H}_8\text{OH}$).

4.1.6

sodium chloride (NaCl , analytical grade). 140 °C baking 4 h, in the dryer to cool to room temperature, stored in the dryer in reserve.

4.2 Solution preparation

4.2.1

Sodium tetraborate solution (4.0 g/L). Weigh 7.5 g of sodium tetraborate [$\text{Na}_2\text{B}_4\text{O}_7 \cdot 10\text{H}_2\text{O}$], dissolve in water and dilute to 1 000 mL.

4.2.2

Methanol solution of o-phthalaldehyde (10 g/L). 1.0 g of o-phthalaldehyde [$\text{C}_8\text{H}_6\text{O}_2$] was weighed and dissolved in methanol and diluted to 100 mL.

4.2.3

mercaptoethanol solution (200 g/L). Weigh 20.0 g of mercaptoethanol [$(\text{CH}_3)_2\text{N}(\text{CH}_2)_2\text{SH} \cdot \text{HCl}$], diluted with sodium tetraborate solution to 100 mL.

4.2.4

Post-column derivatization reagents. Take 5mL of o-phthalaldehyde solution and 5 mL of mercaptoethanol solution, add 500 mL of sodium tetraborate solution in.

4.3 Standards

15 kinds of pesticide standards, purity $\geq 95\%$.

4.4 Standard solution preparation

4.4.1

single pesticide standard solution. respectively, accurately weighed pesticide standards, diluted with isopropyl alcohol, one by one dubbed 1 000mg/L single A pesticide standard stock solution, stored below -18 ° C. When used according to the response value of each pesticide, absorb the right amount of standard stock solution, with acetonitrile dilute Release the required standard working solution.

4.4.2

mixed pesticide standard solution. according to the response value of each pesticide, one by one to absorb a certain volume of the pesticide standard stock solution were injected into the same Volumetric flask, diluted with acetonitrile to the scale, prepared into a standard mixed pesticide reserve solution. Diluted with acetonitrile before use to the required standard working solution.

Mix the standard working solution mass concentration see Appendix A.

4.5 Materials

Fryborough Silica Solid Phase Extraction Column. Filler 1000 mg, volume 6 mL.

5 Instruments

5.1

Liquid Chromatography. with fluorescence detector.

5.2

Post-column derivatization with UV photolysis, UV lamp, wavelength 254 nm, 4W; photolysis tube, length 3 m, tube diameter 0.5 mm.

See Appendix B for the connection diagram.

5.3

high speed homogenizer, speed greater than 10 000 r/min.

5.4

nitrogen blowing instrument.

6.1 Preparation of the sample

Sampling samples of vegetable samples according to GB 2763-2014 Appendix A sampling, for the smaller individual samples, after sampling all the treatment;

For a larger, substantially uniform sample, it can be divided or cut into small pieces on a