

ICS 65.120



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

**GB/T 28716-2012**

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**Determination of zearalenone in feed - High performance liquid  
chromatic graphic method with immunoaffinity column  
clean-up**

**(English Translation)**

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### Foreword

This standard rule according to GB/T 1.1-2009 given draft.

This standard by the National Feed Industry Standardization Technical Committee (SAC/TC76) centralized.

This standard was drafted. Quality Standards and Testing Institute of Agricultural Technology Chinese Academy of Agricultural Sciences, Ministry of Agriculture Feed Quality Supervision and Inspection Center (Nanchang), Feed Science Institute of Zhejiang University, Beijing seized Viacom Technology Co., Ltd. in Beijing to monitor the veterinary feed.

### 1 Scope

This standard specifies the feed zearalenone by immunoaffinity column clean content determination HPLC.

This standard applies to the determination of zearalenone in feed for.

The standard detection limit of 2 $\mu$ g/kg, the limit of quantification of 10 $\mu$ g/kg.

### 2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated edition applies to this article Member. For undated references, the latest edition (including any amendments) applies to this document.

Laboratory use specifications and test methods GB/T 6682 Analysis GB/T 14699.1 feed samples Preparation of GB/T 20195 animal feed samples Principle 3 After the samples were extracted aqueous acetonitrile, diluted with phosphate extraction buffer solution, purification by immunoaffinity column. The extract was purified by reverse phase High performance liquid chromatography with fluorescence detector was measured, quantified by external standard.

## 4 Reagents

Unless otherwise noted, all reagents were of analytical grade; laboratory water in line with GB/T 6682 in two water regulations, standards and mobile solution A water phase in line with the provisions of the water.

### 4.1

acetonitrile. chromatography.

### 4.2

Methanol. chromatographically pure.

### 4.3

Sodium hydroxide solution.  $c(\text{NaOH}) = 0.2\text{mol/L}$ .

### 4.4

extraction agent -- aqueous acetonitrile (82). A 800mL acetonitrile (4.1) was mixed with 200mL of water evenly.

### 4.5

phosphate buffer solution (PBS). 8g of sodium chloride, 1.16g of disodium hydrogen phosphate, 0.2g potassium dihydrogen phosphate, 0.2g of potassium chloride was dissolved to 1000mL water, neutralized with sodium hydroxide solution (4.3) adjusted to pH 7.4.

### 4.6

zearalenone standard, zearalenone content  $\geq 99.5\%$ .

### 4.7

Mobile phase. acetonitrile amount of 460mL (4.1) to 1000mL volumetric flask, was added 460mL of water and 80mL of methanol (4.2).

Mix and filter through 0.45 $\mu\text{m}$  aside.

### 4.8

zearalenone standard solution (50 $\mu\text{g/mL}$ ). Weigh 5.0mg zearalenone standard (accurate to 0.1mg) in 100mL flask with acetonitrile (4.1) and dissolve to volume. This stock standard solution stored under freezing (-18 °C) sealed case, it can be used for 1 year.

### 4.9

zearalenone intermediate standard solution (5.0 $\mu\text{g/mL}$ ). accurate Pipette 10.0mL zearalenone standard stock solution (4.8) to 100mL flask with acetonitrile (4.1) and diluted to volume. The solution was stored at 2 °C ~ 8 °C refrigerator can be used for six months.