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

GB/T 24534.4-2009

**Cereals and pulses -- Determination of hidden insect infestation
-- Part 4: Rapid methods**

谷物与豆类隐蔽性昆虫感染的测定 第4部分：快速方法

(English Translation)

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Table of Contents

- Foreword
- 1 Scope
- 2 Normative references

Foreword

GB/T 24534 "cereals and pulses - Determination of hidden insect infestation" includes the following four parts.

- Part 1. General;
- Part 2. Sampling;
- Part 3. Reference method;
- Part 4. Rapid methods.

This section GB/T Part of 424,534.

The partial modification using ISO 6639-4. 1987 "Part 4 Determination of cereals and pulses hidden insect infestation. the quick way." this portion of the ISO 6639-4. 1987 main technical differences are as follows.

- With GB/T 12620 instead of ISO 565;
- With GB 5491 instead of ISO 950.

For ease of use, this section made the following editorial changes.

- Remove the ISO 6639-4. 1987 Foreword;
- Remove the ISO 6639-4. 1987's "Introduction" section;
- The GB/T 24534.2 added to the "normative references" in;
- With GB/T 5519 instead of ISO 520;
- With GB/T 21305 instead of ISO 712.

This part is proposed by the National Food Authority.

This part of the National Grain and Oil Standardization Technical Committee centralized.

This section drafted by. National Food Reserve Chengdu Grain Storage Research Institute.

1 Scope

This section GB/T 24534 specifies the extent of hidden insect infection cereals or legumes used to estimate the sample, or whether there is infection

5 Quick Ways.

Method One. Determination of carbon dioxide this method is applicable to the determination of complete grain bread and coarse grinding or after rolling through fine sieve to remove insect activity and after food.

This method is suitable for determining.

a) finely ground grain processed products, because the particles may absorb moisture in the air;

b) the moisture content greater than 15% of food products. Because of their own food and microbes produce carbon dioxide may affect the results.

In addition, this method is not suitable for rapid detection of a large number of already adsorbed carbon dioxide food products. Such as controlled atmosphere storage of food or serious Heavy pest infestation food.

This method can be used for coarse or coarsely ground grain products, when using a screening test to distinguish between good test particles and exposed pests.

This method does not allow determination of the dead adults, pupae, larvae and eggs.

Method Two. ninhydrin method this method is applicable to the determination of any dried food inside the insect infestation, particularly wheat, sorghum, rice and other food grains of similar size.

Big grain grain such as corn, should be measured before partially broken (crushed). However, these processes may lead to large grain grain reduce the number of insects or beaten Debris leaving the results are described unreliable. This method may underestimate the eggs and young larvae, but in this aspect, the method is not better than any other party Difference method.

Method three. Whole grain flotation this method is suitable for most grains and legumes hidden infection assay, but only qualitative.

Method four. Sound assay this method is applicable to the determination of insect feeding activity in adults and larvae, adults do not apply to the determination of death, larvae or eggs live within food grains and Pupae (non-take insectivorous state).

Method five. X-ray method this method is applicable to the determination of food grains in the living and dead larvae and adults. Just kill insects (such as fumigation caused) may be difficult and is still alive the insect difference.

2 Normative references

The following documents contain provisions which, through GB/T 24534 in this part of the reference in terms of this section. For dated reference documents Member, all subsequent amendments (not including errata content) or revisions do not apply to this section, however, encouraged to reach under this section Parties to research agreement to use the latest versions of these documents. For undated reference documents, the latest versions apply to this section.

GB 5491 grain and oilseeds testing for sampling, and sample method GB/T 5519
Determination of cereals and pulses grain weight (GB/T 5519-2008, ISO 520. 1977, MOD)
GB/T 12620 long hole, rectangular and round hole sieve GB/T 21305 Cereals and cereal
products - Determination of moisture conventional method (GB/T 21305-2007, ISO
712:1998, IDT) 24534.2 cereals and pulses - Determination of hidden insect infestation
GB/T Part 2 sampling (GB/T 24534.2-2009, ISO 6639-2. 1986, MOD)