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

GB/T 2930.5-2017

Replacing GB/T 2930.5-2001

**Rules of seed testing for forage, turfgrass and other
herbaceous plant -- Biochemical test for viability**

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Foreword

GB/T 2930 "grass seed inspection procedures" is divided into 11 parts.

- GB/T 2930.1 Grass seed testing procedures sample;
- GB/T 2930.2 Grass seed testing procedures Clarity analysis;
- GB/T 2930.3 grass seeds test procedures Determination of other plant seeds;
- GB/T 2930.4 grass seed testing procedures sprout test;
- GB/T 2930.5 grass seed testing procedures biochemical (tetrazolium) determination of viability;
- GB/T 2930.6 grass seed testing procedures health determination;
- GB/T 2930.7 Grass seed testing procedures Species and species determination;
- GB/T 2930.8 grass seed testing procedures moisture determination;
- GB/T 2930.9 grass seed testing procedures weight determination;
- GB/T 2930.10 grass seeds inspection procedures Determination of coated seeds;
- GB/T 2930.11 grass seed inspection procedures inspection report.

This section GB/T 2930 Part 5.

This section drafted in accordance with GB/T 1.1-2009 given rules.

This Part replaces GB/T 2930.5-2001 "Grass Seeds Test Procedure biochemical (tetrazolium Determination)." This section and

GB/T 2930.5-2001 compared to editorial changes in addition to the main technical changes are as follows.

- The standard name from the "forage seed testing procedures vitality of biochemistry (tetrazolium) Determination" was renamed the "grass seed testing procedures Biochemical (tetrazolium) determination of viability "(see cover,.2001 edition cover);
 - In the "Preface", an increase of drafting rules based on the standard preparation (see the foreword);
 - Removed "ISTA Preface" (see the.2001 edition of the ISTA Preface);
 - In the "range" added "ecological grass, ornamental plants and medicinal plants" (see Chapter 1);
 - In the "Normative references" added "GB/T 2930.1 grass seed testing procedures sample" (see Chapter 2);
 - Removed the "test purpose" (see the.2001 version of Chapter 3);
 - Increasing the determination of "principle" (see Chapter 4);
 - Modify Figure 3 in Figure 3 (see Figure 1,.2001 version of Figure 1);
 - Modify the "Table 1" column 2 header to "genus/species name"; in the table increased 9 genera/plant seeds determination procedures, an increase of "Note 3" and "Note 4" (see Table 1, Table 1 of the.2001 edition);
 - In the "dyed" added about tetrazole solution in the fungicide or antibiotic content (see 6.3);
 - In the "result calculation and presentation" increased the same laboratory and different laboratories to determine the allowable gap provisions; increase
The tetrazolium determination results of the specific expression (see Chapter 7);
 - Increased determination of the maximum allowable gap between the table "Table 2" "Table 3" and "Table 4" (see Table 2 to Table 4).
- This section uses the redrafted law to amend the use of International Seed Testing Association (InternationalSeedestingAssociation,
- ISTA) Chapter 6 of the International Seeds Inspection Code, Biochemical (Tetrazolium) Assay for Vitality (2012 Edition).
- This section and the ISTA "International Seeds Inspection Regulations Chapter 6. Vitality of biochemical (tetrazolium) Determination" (2012 Edition) compared to
- There are more structural adjustments, listed in Appendix A of this section and the ISTA "International Seeds Inspection Regulations Chapter 6. Vitality of vitality (Tetrazolium) Determination "(2012 edition) chapter control list (see Table A.1).

This section and the ISTA "International Seeds Inspection Regulations Chapter 6. Vitality of biochemical (tetrazolium) Determination" (2012 Edition) compared to deposit

In the case of technical differences, the clauses covered by these differences have been identified by the vertical single line (|) at the margin of the outer margin, Appendix B

In the corresponding technical differences and a list of the reasons (see Table B.1).

This part is proposed by the Ministry of Agriculture of the People's Republic of China.

This part of the animal husbandry by the National Standardization Technical Committee (SAC/TC274) centralized.

This part of the drafting unit. Lanzhou University grassland agroecosystem State Key Laboratory of Ministry of Agriculture grass and turf grass seed quality supervision Inspection and Testing Center (Lanzhou).

1 Scope

This section GB/T 2930 specifies the grass seed biochemical (tetrazolium) determination procedures and methods.

This section applies to grass, turfgrass, forage crops, ecological grass, ornamental grasses and medicinal plants and other seed quality test of viability determination.

2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated version applies to this article

Pieces. For undated references, the latest edition (including all amendments) applies to this document.

GB/T 2930.1 grass seed test procedures sample

GB/T 2930.2 grass seed testing procedures clarity analysis

GB/T 2930.4 grass seed testing procedures germination test

GB/T 8170 rounded repair rules and limit values of the representation and judgment

3 Terms and definitions

The following terms and definitions apply to this document.

3.1

Seed vitality seedviability

Potential seed germination or embryo has the vitality.

4 principle

The use of 2,3,5-triphenyltetrazolium chloride or triphenyltetrazolium bromide (referred to as tetrazole) in the seed tissue involved in the reduction of living cells,

Hydrogen ions are taken from the dehydrogenase to allow the colorless tetrazole to undergo hydrogenation to produce a red, stable, and non-diffusible triphenylmethylcarbazole in living cells.

According to the color and location of the tetrazolium dye, differentiate the viable or dead parts of the seeds. In addition to all the vibrant red dyed seeds

And all unstained non-viable seeds, some stained seeds appear. Partially stained seeds may appear to differ in degree

Of necrotic tissue. Determining the viability of seeds depends on the location and size of necrotic tissue area, not necessarily the depth of color.

5.1 appliances

The vitality of the biochemical (tetrazolium) determination of the required equipment included.

- a) Electrothermal incubator or incubator;
- b) stereo microscope or magnifying glass;
- c) Petri dishes, beakers, test tubes, small glass bottles;
- d) Scalpels, blades, dissecting needles, etc.