

ICS 65.020.30
CCS B 43



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

GB/T 4143-1984

Replacing GB 4143-2008

**Frozen bovine semen
(English Translation)**

Issued on: December 29, 2022

Implemented on: January 1, 2024

Issued by: State Administration for Market Regulation

Table of Contents

Preface	
1 Scope	
2 Normative references	
3 Terms and Definitions	
4 Technical requirements	
5 Samples	
5.1 Basic requirements	
5.2 Sampling volume	
5.3 Sampling method	
5.4 Sample storage	
6 Test method	
6.1 Dosage	
6.2 Sperm motility	
6.3 Forward motile sperm count	
6.4 Sperm deformity rate	
6.5 Total number of colonies	
7 Inspection rule	
7.1 Batch	
7.2 Inspection type	
7.3 Judgment rule	
8 Signs and accompanying documents	
8.1 Flag	
8.2 Accompanying documents	
9 Packaging, storage and transportation	
9.1 Inner packing	
9.2 Outer packaging	
9.3 Storage and transport	
Appendix A (Normative) Methods for Quality Inspection of Bovine Frozen Semen	
A.1 General	
A.2 Dose	
A.3 Sperm motility	
A.4 Forward motile sperm count	

A.5 Sperm deformity rate

A.6 Total number of colonies

Appendix B (Informative) Coding of Cattle Breeds

B.1 Compilation principles

B.2 Preparation method

B.3 136 cattle breed codes

Reference

Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for Standardization Work Part 1: Structure and Drafting Rules for Standardization Documents" drafting.

This document replaces GB 4143-2008 "Frozen Semen of Cattle". Compared with GB 4143-2008, except for structural adjustments and editorial changes in addition, the main technical changes are as follows.

---Changed the definition of "total number of bacterial colonies" (see 3.3, 3.4 of the 2008 edition);

---Delete the requirements of "breeding bull" and "fresh semen" (see 4.1, 4.2 of the 2008 edition);

--- Adjust the technical requirements of "appearance of frozen semen" to the requirements of "packaging" (see 9.1, 4.3 of the 2008 edition);

--- Changed the technical requirements of "dosage", "sperm motility", "forward motile sperm count", "sperm deformity rate" and "total number of colonies" (see Section 4 Chapter, 4.4, 4.5.1, 4.5.2, 4.5.3, 4.5.4 of the 2008 edition);

--- Deleted "sampling" (see Chapter 5, Appendices A and B.1 of the 2008 edition), and added "sampling" content (see Chapter 5);

---Changed the "inspection type" and "judgment rules" (see 7.2, 7.3, 6.4 and Chapter 7 of the 2008 edition);

--- Increased the description of "type inspection" (see 7.2.2);

--- Added "accompanying files" (see 8.2);

--- Added "storage" and "transportation" (see 9.3).

Please note that some contents of this document may refer to patents. The issuing agency of this document assumes no responsibility for identifying patents.

This document was proposed and managed by the Ministry of Agriculture and Rural Affairs of the People's Republic of China.

The release status of previous versions of this document and the documents it replaces are as follows.

---First published as GB 4143-1984 in 1984, first revised in 2008;

--- This is the second revision.

bovine frozen semen

1 Scope

This document specifies the technical requirements, sampling, inspection rules, signs and accompanying documents, packaging, storage and transportation of bovine frozen semen, and describes Test method for quality control of bovine frozen semen.

This document applies to bovine frozen semen.

2 Normative references

The contents of the following documents constitute the essential provisions of this document through normative references in the text. Among them, dated references for documents, only the dated version is applicable to this document; for undated reference documents, the latest version (including all amendments) is applicable to this document.

GB 4789.2-2016 National Food Safety Standard Food Microbiological Inspection
Determination of Total Bacterial Count GB/T 5458 Liquid nitrogen biological container GB/T 8170 Numerical rounding off rules and expression and determination of limit values GB/T 14174 Large diameter liquid nitrogen container GB/T 30396-2013 Packaging, labelling, storage and transportation of bovine frozen semen

3 Terms and Definitions

The following terms and definitions apply to this document.

sperm motility Percentage of forward motile sperm count to total sperm count at 37°C.

[Source. GB 20557-2006, 3.2] 3.2 Abnormal sperm count as a percentage of total sperm count.

[Source. GB 20557-2006, 3.3] 3.3 Total number of colonies aerobicplatecount the total number of microbial colonies observed per dose of semen after incubation under certain conditions.

frozen semen the semen processed by a special method is cryogenically frozen and stored in liquid nitrogen (-196°C) for a long time.

[Source. GB 20557-2006, 3.5] 3.5 the total number of forward motile sperm per dose of semen.