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

GB/T 25419-2023

Replacing GB/T 25419-2010

Fruit tree pruning machines

果树剪枝机

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Table of Contents

1 Scope	1
2 Normative references	1
3 Terms and Definitions	2
3 Basic parameters	4
5 Security	6
4 Security	9
3 Type inspection	10
5 Storage	11

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/T 25419-2010 "Pneumatic Fruit Tree Pruning Machine": Compared with GB/T 25419-2010, except for structural adjustment and In addition to editorial changes, the main technical changes are as follows:

- a) The scope of application has been changed (see Chapter 1, Chapter 1 of the:2010 edition);
- b) The chapter "Classification, Modeling and Basic Parameters" has been added (see Chapter 4);
- c) The technical requirements for electric fruit tree pruning machines have been added, and the requirements and parameters for pneumatic fruit tree pruning machines have been changed (see Chapter 5,:2010 edition Chapter 3);
- d) Some test methods have been changed (see Chapter 6, Chapter 4 of the:2010 edition);
- e) Changed the inspection rules (see Chapter 7, Chapter 5 of the:2010 edition);
- f) Added packaging requirements for a single unit (see Chapter 8): 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 is proposed by China Machinery Industry Federation: This document is under the jurisdiction of the National Agricultural Machinery Standardization Technical Committee (SAC/TC201): This document is drafted by: Ningbo Ningjia Agricultural Machinery Co., Ltd., Hangzhou Vocational and Technical College, Xinjiang Uygur Autonomous Region Agricultural and Animal Husbandry Machinery Quality Supervision and Management Station, Zhejiang Guyuehu Industry and

Trade Co., Ltd., Zhejiang Huangjia Garden Tools Manufacturing Co., Ltd., Hunan Ningjia Electromechanical Co., Ltd. Division, Dongguan Jiahang Industrial Co., Ltd., Zhejiang Dongqiao Precision Machinery Co., Ltd., Zhejiang Changxu Industry and Trade Co., Ltd. The main drafters of this document: Shi Yunbin, Fang Peiqiang, Shi Jiefan, Ding Zhixin, Gao Yan, Hu Wenyong, Tang Enchang, Wang Dingjun, Ma Xianpeng, Xu Senyan, Lei Chunliu: This document was first published in:2010, and this is the first revision: fruit tree pruning machine

1 Scope

China's national standard for fruit tree pruning machines. It specifies the types and basic parameters, the technical requirements, the safety requirements, the test methods, the inspection rules and the marking, packaging, transport and storage of machines for pruning fruit trees. Pruning is the most labour-intensive operation in an orchard after harvest and the one that is hardest to mechanise well, because it is a judgement as much as a cut: the grower removes specific wood to shape the tree, control the crop load and open the canopy to light, and a machine that simply cuts to a plane does something quite different. So the mechanised forms divide into two, and the standard covers both. Hedging or contour pruning machines cut the canopy to a geometric envelope with rotating discs or reciprocating blades carried on a boom - fast, cheap per hectare, and appropriate to intensive plantings designed for it, but indifferent to which wood it removes. Powered hand tools - the pneumatic, electric and battery secateurs and loppers that a worker carries - keep the judgement with the person and multiply what they can cut in a day, which for old or complex trees is the only mechanisation available. The requirements follow from the two forms. For the machines: the cutting mechanism, the cut quality, since a torn or crushed cut heals badly and admits disease where a clean one does not; the boom and its reach and control; and the stability of a machine working with a long arm extended on sloping ground. For the tools: the cutting capacity, the force and ergonomics, and the fatigue of repeated operation. The safety requirements dominate both, because a pruning machine puts fast-moving blades at head height around people working on foot. Issued on 23 May 2023 and in force since 1 December 2023, it replaces GB/T 25419-2010.

This document specifies the classification, basic parameters and types of fruit tree pruning machines (hereinafter referred to as pruning machines) that use oscillating blades to complete the cutting of branches: Numbering, technical requirements, test methods, inspection rules, signs, instructions for use, packaging, transportation and storage: This document is applicable to power supply with a special battery pack with a nominal voltage not greater than DC 75V or with a voltage not higher than 1.0MPa compressed air supply, one-handed pruning machine: For high-altitude operations, electric or pneumatic pruning machines with extension poles can be implemented as a reference: A pruning machine that obtains electric energy from a common storage battery through a special cable can be implemented as a reference: This document does not apply to:

- Pruning shears whose blades cut branches in a reciprocating linear motion;
- Pruning machines for cutting branches with rotary saw blades;
- Electric pruning machines that directly use power frequency alternating current as a power source;
- Pruning shears that only use the grip of the holding hand to cut;
- Pruning machines with only two moving blades and no fixed blades:

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 version corresponding to the date is applicable to this document; for undated reference documents, the latest version (including all amendments) is applicable to this document: GB/T 230:

1 Rockwell hardness test for metallic materials - Part 1: Test method GB/T 1911 copy paper

GB/T 3883.1-2014 Safety of Handheld, Portable Power Tools and Garden Tools Part 1: General Requirements

GB/T 4208 enclosure protection level (IP code) GB/T 5171:

21 Small power motors Part 21: General test methods GB/T 5171:

22 Small power motors - Part 22: Test methods for permanent magnet brushless DC motors

GB/T 9480 Rules for compiling instruction manuals of agricultural and forestry tractors and machinery, lawn and gardening power machinery

GB 10396 Agricultural and Forestry Tractors and Machinery, Lawn and Garden Power Machinery Safety Signs and Hazard Graphics General Rules GB/T 11918: