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

GB/T 47573.1-2026

**Agricultural irrigation equipment - Guideline on the
implementation of pressurized irrigation systems - Part 1:
General principles of irrigation**

农业灌溉设备 承压灌溉系统实施指南 第1部分：灌溉通则

(English Translation)

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Table of Contents

Preface
Introduction
1 Scope
2 Normative References
3 Terms and Definitions
4 Water Management
5 Pressurized Irrigation Design
6 Calculate the irrigation system
Appendix A (Informative) Example 17 of Soil Parameters
Appendix B (Informative) Method for Determining the Size of Wet Bodies (Spheres)
Appendix C (Informative) Salt Tolerance of Selected Crops
References

Foreword

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

Drafting.

This document is Part 1 of GB/T 47573 "Implementation Guidelines for Pressurized Irrigation Systems in Agricultural Irrigation Equipment". GB/T 47573 has been...

The following sections were published.

---Part 1: General Rules of Irrigation;

---Part 2: Drip Irrigation.

This document is equivalent to ISO 24120-1:2022 "Agricultural irrigation equipment - Guidelines for the implementation of pressurized irrigation systems - Part 1: General rules for irrigation".

Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for identifying patents.

This document was proposed by the China Machinery Industry Federation.

This document is under the jurisdiction of the National Technical Committee on Standardization of Agricultural Machinery (SAC/TC201).

Introduction

GB/T 47573, "Implementation Guidelines for Pressurized Irrigation Systems in Agricultural Irrigation Equipment," outlines commonly used pressurized irrigation systems (drip irrigation) for farmland irrigation.

The implementation of irrigation (sprinkler irrigation) involves water and soil relations, water sources, irrigation regimes, and the design of sprinkler and drip irrigation systems, providing a basis for farmland irrigation.

The implementation of the pressure irrigation system is provided with guidance and is proposed to consist of three parts.

---Part 1: General Principles of Irrigation. The purpose is to provide general principles for the implementation of pressurized irrigation systems in farmland irrigation.

---Part 2: Drip Irrigation. The purpose is to provide guidelines for implementing drip irrigation systems in farmland irrigation.

---Part 3: Sprinkler Irrigation. The purpose is to provide guidelines for implementing sprinkler irrigation systems in farmland irrigation.

Implementation Guidelines for Pressurized Irrigation Systems in Agricultural Irrigation Part 1: General Rules of Irrigation

1 Scope

This document provides guidelines for implementing pressurized irrigation systems.

This document applies to small-scale family farming and large-scale commercial farming in open fields or enclosed planting facilities (such as greenhouses or multi-span greenhouses).

agriculture.

This document is intended for use by agricultural departments, agronomists, irrigation planners, farmers, and consumers.

2 Normative references

This document has no normative references.

3 Terms and Definitions

The following terms and definitions apply to this document.

wetting front

The boundary between the moist and dry zones of the soil during infiltration.

4.1.1 General Principles

Soil is a three-phase system (minerals and organic solid particles, water, and air), acting as a reservoir for plant water. This is essential for designing irrigation systems.

In general, the soil-water-plant relationship described in Chapter 4 should be considered. Examples of soil physical parameters are given in Appendix A.

4.1.2 Solid particles and porosity

Soil volume is composed of solid particles of different sizes (sand, silt, and clay) and pores. The relative content of these three groups of solid particles determines...

The soil texture.

The volume not filled by solid particles is defined as soil pores. The total volume and size of pores depend on soil texture and clay content.

The higher the porosity, the higher the total porosity of the soil, and the smaller the pore size. The total porosity of sandy soil is 35%-40%, and that of medium-porosity soil is 50%.

The clay content can reach 60%.

When soil is saturated with moisture, all the pores of the soil are filled with water and therefore contain no air.

4.1.3 Soil Moisture

The mass percentage of water to solids is characterized by the relationship between the mass of water and the mass of solid particles, as shown in formula (1). This is typically expressed through mass...