

Status of China's Cultivated Land Quality in 2019

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On 12 May, the Ministry of Agriculture and Rural Affairs (MARA) released the bulletin of “National Cultivated Land Quality Grades in 2019”. This is the second nation-wide evaluation of the cultivated land quality.

The factors considered in the evaluation include site conditions, soil profile properties, organic matter and nutrients content, physical and chemical properties, irrigation and drainage capacity.

MARA releases the information of national cultivated land quality in every 5 years. The first evaluation was conducted in 2014.

This issue of SAIN Information Sheet highlights the main findings of the second evaluation of China's cultivated land quality, governmental bodies and initiatives on land quality protection and improvement.

Overview

The Bulletin divided China's 134.9 million ha of cultivated land into ten grade, with grade one the highest and grade ten the lowest in quality (Table 1). In average, the grade of cultivated land in 2019 was 4.76, a 0.35 grade higher than in 2014.

Table 1. Quality grade of China's cultivated land

Grade	Area (M ha)	Proportion (%)
1	9.2	6.8
2	13.4	9.9
3	19.5	14.5
4	23.3	17.3
5	22.7	16.9
6	17.1	12.7
7	12.1	9.0
8	8.7	6.5
9	4.7	3.5
10	4.1	3.0
Total	134.9	100

- Grade 1 to 3, 42.1 million ha, account for 31.24% of the total cultivated land area. These lands have high inherent productivity, no constraints to cultivation, agricultural production should be carried out in the way of maintaining and improving land quality.
- Grade 4 to 6, 63.1 million ha, accounting for 46.81% of the total area of cultivated land. These lands are located in the regions with generally suitable climate, reasonable farm land basic infrastructure, no obvious cultivation constraints. These land are the priorities for production increase in the future.
- Grade 7-10, 29.6 million ha, accounting for 21.95% of the total area of cultivated land. These lands have low inherent productivity, with obvious constraints to cultivation which cannot be fundamentally improved in short term, basic infrastructure construction and inherent productivity improvement should be carried out on these lands.

The spatial distribution of cultivated land quality

The Bulletin divided China's cultivated land into 9 regions, these are: Northeast region, Inner Mongolia and Great Wall region, Huang-Huai-Hai Plain region, Loess Plateau region, Middle and Lower Reaches of Yangtze River region, Southwest region, Southern China region, Gan-Xin region, and Qinghai-Tibet region. These are in consistent with China's comprehensive agricultural regional planning (see Fig 1).

Fig 1. China's Agricultural Regional Planning Map



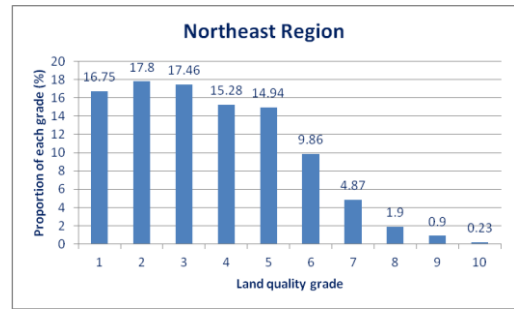
I - Northeast Region, II- Inner Mongolia and Great Wall Region, III - Huang-Huai-Hai Region
 IV- Loess Plateau Region, V - Middle and Lower Reaches of Yangtze River Region,
 VI – Southwest Region, VII – South China Region, VIII – Gan-Xin Region, IX – Qinghai-Tibet Region

(Adopted from National Cultivated Land Quality Grades in 2014)

• Northeast Region

This region includes whole area of Liaoning, Jilin and Heilongjiang Provinces and northeast part of Inner Mongolia Autonomous.

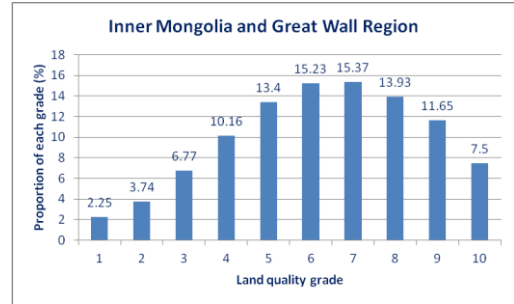
The total cultivated land area in the region is 29.9 million ha, with average quality grade of 3.59.



• Inner Mongolia and Great Wall region

This region covers most parts of Inner Mongolia Autonomous, Shanxi and Hebei Provinces.

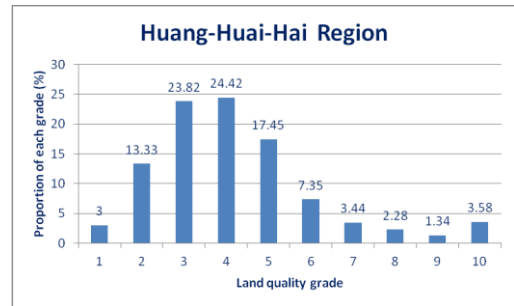
The total area of cultivated land is 8.9 million ha, with average quality grade of 6.28.



• Huang-Huai-Hai Plain Region

This region, also known as North China Plain, covers whole areas of Beijing, Tianjin and Shandong Province/City, east part of Hebei Province, east part of Henan Province, and north part of Anhui Province.

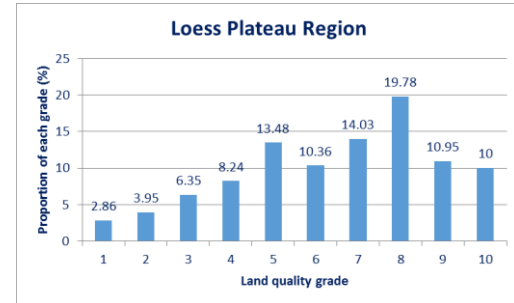
The total area of cultivated land is 21.4 million ha, with average quality grade of 4.2.



• Loess Plateau Region

This region includes middle and north parts of Shaanxi Province, central and east parts of Gansu Province, east part of Qinghai Province, central and south parts of Ningxia Hui Autonomous, central and south part of Shanxi Province, west of Taihang Mountains of Hebei Province, and the west part of Henan Province.

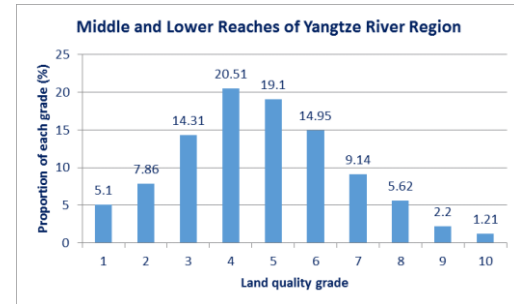
The total area of cultivated land is 11.3 million ha, with average quality grade of 6.47.



• Middle and Lower Reaches of Yangtze River Region

This region covers south part of Henan Province, most parts of Anhui, Hubei and Hunan Provinces, whole areas of Shanghai, Jiangsu, Zhejiang and Jiangxi Provinces/City, north parts of Fujian, Guangxi and Guangdong Provinces/Autonomous.

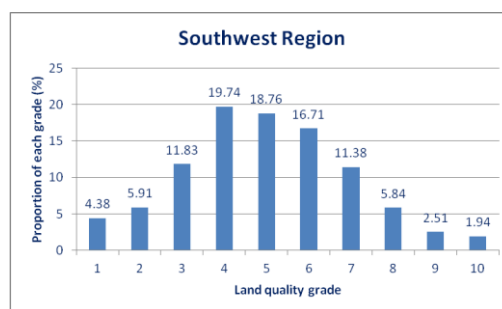
The total area of cultivated land is 25.4 million ha, with average quality grade of 4.72.



• Southwest Region

This region covers whole parts Guizhou Province and Chongqing City, south east part of Gansu Province, south part of Shaanxi Province, west parts of Hunan and Hubei Provinces, most parts of Yunnan and Sichuan Provinces, and north part of Guangxi Zhuang Autonomous.

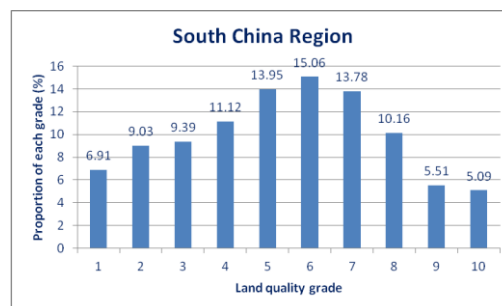
The total area of cultivated land is 20.9 million ha, with average quality grade of 4.98.



• South China Region

This region covers whole area of Hainan Province, central and south parts of Guangdong, Fujian, Guangxi and Yunnan Provinces/Autonomous.

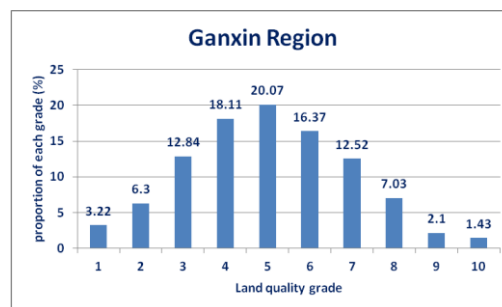
The total area of cultivated land is 8.2 million ha, with average quality grade of 5.36.



• Gan-Xin Region

The region covers whole area of Xinjiang Uyghur Autonomous, Hexi Corrido region of Gansu Province, middle and north part of Ningxia Hui Autonomous, and west part of Inner Mongolia Autonomous.

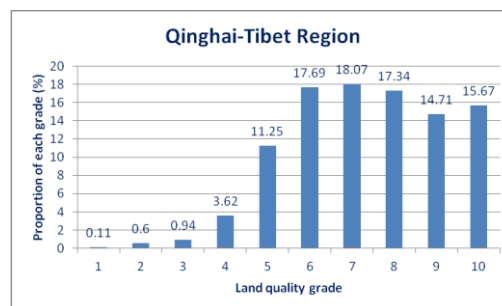
The total area of cultivated land in the region is 7.73 million ha, with quality grade of 5.02.



• Qinghai-Tibet Region

The region covers whole area of Tibet Autonomous, most area of Qinghai Province, and south part of Gansu, west part of Sichuan, northwest part of Yunnan Provinces.

The total area of cultivated land in the region is 1.06 million ha, with average quality grade of 7.35.



The governance of cultivated land quality

Organizations

Three ministries, Agriculture and Rural Affairs, Natural Resources, Ecology and Environment, are responsible, from different aspects, for cultivated land protection in China.

Ministry of Agriculture and Rural Affairs

Two organisations in MARA, the Department of Farmland Development and Administration, and the Cultivated Land Quality Protection and Monitoring Centre are responsible for cultivated land protection. The specific responsibilities include:

- Propose farmland construction projects;

- Managing agricultural comprehensive development projects, farmland improvement projects, and farmland water conservancy construction projects;
- Constructing of the national cultivated land quality survey and monitoring system;
- Monitoring and evaluation of cultivated land quality, formulating technical standards for the investigation and evaluation of cultivated land quality;
- Construction and management of the national cultivated land quality monitoring network;
- International cooperation and technology exchanges on cultivated land quality issues, participating the activities of Global Soil Partnership.

Ministry of Natural Resources (MNR)

Department of Cultivated Land Protection and Monitoring of MNR oversees the quantity and quality of cultivated land in China, with specific responsibilities of:

- Formulating and implementing policies for the protection of cultivated land;
- Overseeing the offsetting cultivated land used for other purposes.

Ministry of Ecology and Environment (MEE)

The Department of Soil Ecology and Environment of MEE has the responsibilities of prevention and control of soil pollution with specific roles of:

- Supervising the prevention and control of soil and ground water pollution as well as the ecological conservation of soil and groundwater;
- Guiding the rural ecological and environmental protection;
- Supervising and guiding the control of non-point source pollution in the agricultural sector.

China's recent policies and actions on cultivated land protection

The following are some of the key policies and actions initiated in the last five years on cultivated land protection.

- **Developing High Standard Farmland and Enhancing Food Security Capability**

In 2019, The State Council issued a circular specifying requirements for developing high-standard farmland in China.

According to the circular, the country aims to cultivate high-standard farmland covering up to 800 million mu (about 53 million ha) by 2020, and increase the area to one billion mu (66.7 million ha) by 2022. It is expected to yield over 500 million tonnes of production capacity, taking up 80 percent of total grain production.

- **Action Plan for Cultivated Land Quality Protection and Improvement**

Announced by MARA in 2015 with three objectives: (i) steadily improve cultivated land quality; (ii) continually increase the use of organic fertilizers; (iii) continually increase the appropriateness of fertilizer application.

- **Pilot Plan for Farmland Rotation and Fallow System**

In 2016, MARA, together with other eight ministries, released the Pilot Plan for Farmland Rotation and Fallow System. The aim is to, in 3-5 years, establish the policy system for farmland rotation and fallow system, disseminate the technology packages which integrate the crop production and land fertility protection.

- **Guideline on Protecting Black Soil in Northeast China (2017-2030)**

The Guideline was jointly released by the MARA and five other ministries in June 2017.

The document sets to safeguard the remaining land with black soil while improving the local ecology and ensuring yields. By 2030, Northeast China's 16.67 million hectares of black soil will be better protected to improve fertility, ecology and farming facilities to yield greater production.

- **The Action Plan for Zero Growth in Fertilizer Use by 2020**

In 2015, MARA released the “The action plan for zero growth in fertilizer use by 2020”. The fertilizer zero growth action plan forms part of China’s agricultural modernization strategy. The overall objective is by 2020 to establish a management and technology system for scientific fertilizer application, and achieve zero growth in fertilizer use.

- **Soil Pollution Control and Prevention Law**

China’s soil pollution and control law, passed by the China’s top legislature on 31 August 2018, went into effect on 1 January 2019.

- **Guideline on Preventing and Control the Pollution from Plastic Mulching Film**

In 2019, MARA, Ministry of Environment and Ecology (MEE) and four other ministerial departments announced the “Guidelines on Speeding up Pollution Prevention and Control of Agricultural Mulch Films”.

The Guideline aims by 2025, all agricultural mulch film should be recycled with negative growth in film residues, and white pollution significantly controlled.

- **Plan for Establishing Green Oriented Agricultural Subsidies System**

On 19th December 2016, Ministry of Finance and Ministry of Agriculture jointly announced the “Reform Plan for Establishing Green Oriented Agricultural Subsidies System”.

The Plan encourages the cultivated land protection, include the activities of soil quality improvement, pilot of fallow and rotation scheme.

- **Rural Vitalization Strategic Plan (2018-2022)**

The Plan, issued by the State Council in 2018, spelled out the key tasks for the 2018-2022 period including the strategy's overall goal of building rural areas with thriving businesses, pleasant living environments, social etiquette and civility, effective governance, and prosperity.

The Plan reiterated the importance of strengthening the protection and construction of cultivated land.

- **No 1 Central Documents 2015-2020**

Cultivated land protection and improvement have been the priorities highlighted in the No 1 Central Document in last five years.

Annex - SAIN Information Sheet List

No. 1

China's Agriculture and Food Policies

No. 2

Policies on Agricultural Production System and Food Safety Supervision System Reform

No. 3

英国农业技术战略简介 UK Strategy for Agricultural Technologies – Summary

No. 4

China's 13th Five Year Plan on Science and Innovation

No. 5

China's Innovation Driven Development Strategy

No. 6

China's Agricultural Modernization - Policy Framework

No. 7

China's Agricultural Production and Trade in 2016

No. 8

China's Agricultural Production and Trade in 2017

No. 9

China's Agricultural Transition in 2017 - Policies, Actions and Progress

No. 10

绿色未来: 环境改善 25 年规划 (A Green Future: Our 25 Year Plan to Improve the Environment)

No. 11

China's Agricultural Plans in 2018

No. 12

健康与和谐: 绿色脱欧的未来食品、农业和环境 (Health and Harmony: the future for food, farming and the environment in a Green Brexit)

No. 13

英国部署清洁空气战略, 严格控制农业氨排放 (Clean Air Strategy)

No. 14

China's Agricultural Products Trade in the First Three Quarters 2018

No. 15

China's Agricultural Production and Trade in 2018

No. 16

China's Agricultural Products Trade in the First Quarter 2019

No. 17

China's Agricultural Products Trade in the First Half 2019

No. 18

China's Agricultural Plans in 2019

No. 19

China's Agricultural Products Trade in the First Three Quarters 2019

No.20

China's Agricultural Production and Trade in 2019

No.21

China's Rural Virilisation and Agriculture Green Development – Policy Framework and Action Plans

No.22

China's Agricultural Products Trade in the First Quarter 2020

No.23

China's Agricultural Plans in 2020

No.24

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