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## Dividing the ecological environmental area for the northwest dry grassland of China

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**Key words** : dry grassland, ecological environment, study of division

**Introduction** The distribution of dry grassland in the northwest China covers 171 Manchu administrative divisions, counties and cities of 6 northwest provinces and autonomous regions, including Inner Mongolia, Gansu, Ningxia, Xingjiang, Shanxi, and Qinghai. The total surface area is 129,650,000 hm<sup>2</sup>. It is an important ecological resource and livestock production area of China. This classification together with pertinent theories and viewpoints will be used to implement ecological and environmental reconstruction in West China.

**Methods** Analysis of four indices (geographical position, climate, soil texture, and plant communities), were used to that the northwest dry grassland can be divided into four ecological areas. Manipulative disposal point in the area, classify and analysis basal datum, supplement correlative datum and seeing about typical area on the spot.

**Results** (1) The Plateau, basin dry desert ecological area: It includes the Helan Mountain, west of the Yellow River, Ningxia, Mongolia, Gansu, Qinghai and the Chaidamu basin to the end of Xinjiang, which shows a zoned distribution from east to west, covering 44,972,800 hm<sup>2</sup>, there are Brown Salc soils, Sierozems soils, grey-Brown desert soils and a lot of windblown sandy soils. The plant covers consists of drought-resistant shrubs and sub-shrubs, including some perennial herbs. (2) The ecological area of arid and semiarid grasslands in the Loess Plateau: It is distributed closely on a line in the Long Dong area, from Longzhong to Lanzhou city in the northwest. The biggest surface is 2,690,000 hm<sup>2</sup> in Gansu. The main terrain feature of the Loess Plateau is a large number of hills 800-1800m in height. The climate type is dominated by arid and semiarid. The main plant cover is herbaceous plants, covering most of the soil surface. (3) The farm-pastoral belt of the Tibet plateau and the Loess plateau: It is distributed 5 counties and 1 city of Gansu and Qinghai. The main landforms are river valleys and hillsides, and the secondary are lower hills. The main soil texture is carbonate soil including sierozems soils and Chestnut soils. The Plant covers consist mainly of drought-resistant perennial herb or lower sub-shrub. (4) Man-made grassland ecological area: It includes Artificial turf, semi-artificial turf and various green lawn.

**Table 1** Simple table of ecological areas division.

	The Plateau and basin ecological area	Arid and semiarid ecological area	Farm-pastoral belt ecological area	Man-made grassland ecological area
Terrain	Plateau, Basin	Hill, beam	Valley, mountain	Mountain, Plain
Climate	Extremely drought	Arid and semiarid	Cold drought	Suitable for farming
Plant	Shrubs and sub-shrubs	Herbaceous plants	Stress-resistance perennial herb	Man-made grassland
Soil	Sandy soils	Chestnut soil, black loam	Chestnut soil, ash brown soil	Farmland Soil

**Conclusions** After study, northwest grassland was divided into four areas, including: The Plateau, basin dry desert ecological area; The ecological area of arid and semiarid grasslands in the Loess Plateau; The farm-pastoral belt of the Tibet plateau and the Loess plateau and Man-made grassland ecological area.