



## **Field Observations on the Erosion Characteristics and Fencing Life of Straw Checkerboard in the Alpine Sandy Lands of Qinghai Lake, China**

Dengshan Zhang (1,2,3), Mingyuan Zhang (2), Wangyang Wu (2), and Lihui Tian (3)

(1) Qinghai Academy of Agriculture and Forestry Sciences, Qinghai University, Xining 810016, China (dshzhang@bnu.edu.cn), (2) Key Laboratory of Environmental Changes and Natural Disaster, Ministry of Education, Beijing Normal University, Beijing 100875, China, (3) State Key Laboratory of Plateau Ecology and Agriculture, Qinghai University, Xining 810016, China

In the alpine sandy lands of China, there are great peculiarities and regional differences in the erosion and deposition characteristics of straw-checkerboards. The fencing life of straw checkerboard is primarily affected by the erosion depth change of each inner part over several years. The continuously monitored seasonal erosion depth of three sizes (1 m×1 m, 1.5 m×1.5 m, 2 m×2 m) of straw checkerboards in three slope positions (the toe, the middle, the top), revealed that serious erosion always occurred in the center- and south-oriented parts of the large straw-checkerboards in higher slope positions. In contrast, deposition obviously appeared in the north- and west-oriented parts of those smaller sizes and lower slope positions. Such differences were caused by the northwest wind in winter and the northeast wind in spring. The winter and yearly erosion rates showed that the 1.5-meter-interval checkerboard on the middle slope would have the longest fencing life with an average of approximately five years with a stable concave and balanced erosion (deposition) effect, while the 1-m interval on the toe and the 2 m intervals on the top had problems of over-erosion or over-accumulation, which limited their lifetimes to two years. Thus, possible directions for desertification controllers is that the straw-checkerboard should be allocated optimally according to the erosion and deposition effects; generally, the medium size could be applied to all slope positions, while the small one and the large one were most suited to the top and the toe slope positions, respectively.

**Key Words:** sand depth; erosion and deposition; fencing life; sizes; slope positions

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