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The Vegetation Cover Growth Dynamic in Mongolia

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I. Introduction

Mongolian pastureland has a wide range of vegetation community and most of them always used for a feed of domestic animals. Due to last years severe droughts, under anthropogenic and climate change impacts, the pastureland capacity from year to year is decreased.

This paper describes the pasture aboveground biomass and height dynamic at more than 40 points evenly distributed over Mongolia for 1972-2002 and their chances during last years. The tendency of pasture biomass is reduced during last 30 years.

II. Discussion

Fig. 1 and 2 present the long-term values of pasture aboveground biomass and height dynamic of Stipa.L during vegetation period at different climate and soil regions: Erdenemandal (Arkhangai aimag), Undorkhaan (Khentii aimag), Altai (Gobi-Alati aimag), and Dalanzadgad (Umnigobi aimag).

From the figures it is clear that pasture biomass in northern part (Erdenemandal, Arkhangai aimag) completely higher than other parts and maximum height of Stipa.L is observed in eastern part than other regions (Undorkhaan, Khentii aimag).

Figures 3 and 4 show the changes of pasture biomass including biomass of Stipa.L at different

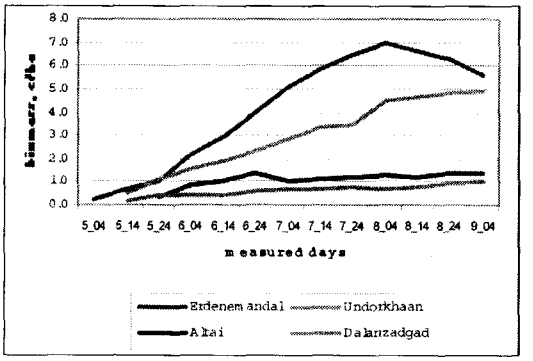

Fig. 1. Long-term average value of pasture biomass, 1972-2002

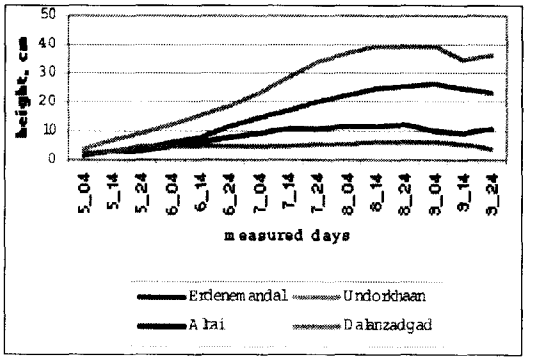

Fig. 2. Long-term average of Stipa.L height, 1972-2002

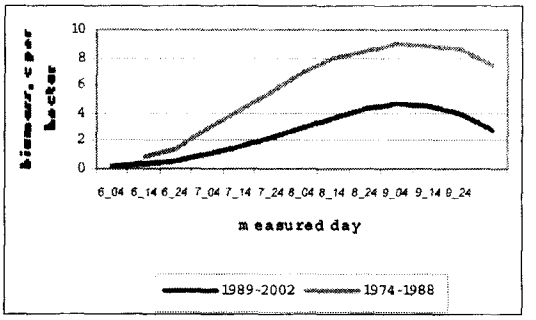

Fig. 3. Aboveground biomass of pasture, Erdenemandal, Arkhangai aimag

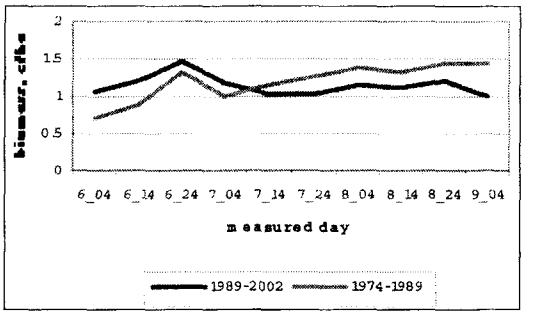

Fig. 4. The aboveground biomass of pasture, Altai, Gobi-Altai aimag

periods.

III. Summary

According to the long-term data of biomass measured in fenced and non-fenced plots from 1983 to 2002 (280 pairs of), the averaged aboveground biomass for 1983-1992 inside fenced was 3.7 c/ha and without fence was 3.4 c/ha while same biomass for 1993-2002 were 2.9 c/ha and 2.3 respectively. It is evidence that even during last 10 years the averaged biomass in fenced (no impact from human and animals) plot less than 0.8 c/ha compared previous ten years, 1983-1992. Comparison of fenced and non-fenced plots presents the difference between nature growth and human/animal's impacts on pastureland. The biomass inside fences was higher than without fences.

Stipa.L distributed everywhere over Mongolia and its height is decreased from year to year: the averaged height inside fence for 1974-1988 was higher than the averaged height for 1989-2002.

References

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