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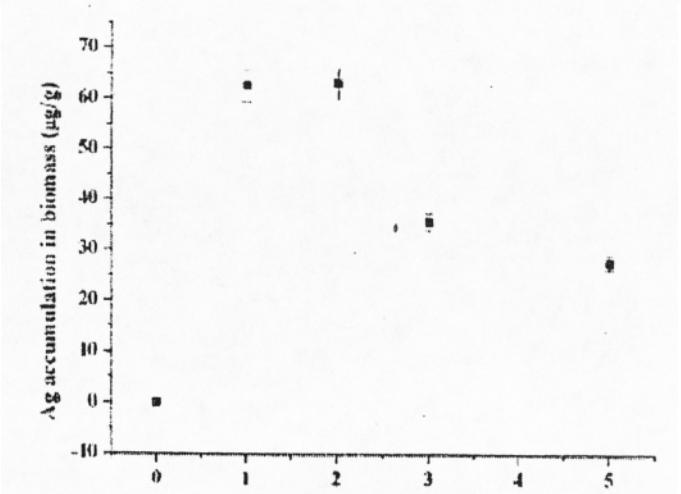

Fig.2. The silver concentrations in biomass of S. platensis versus the time of exposure to silver nitrate determined by NAA

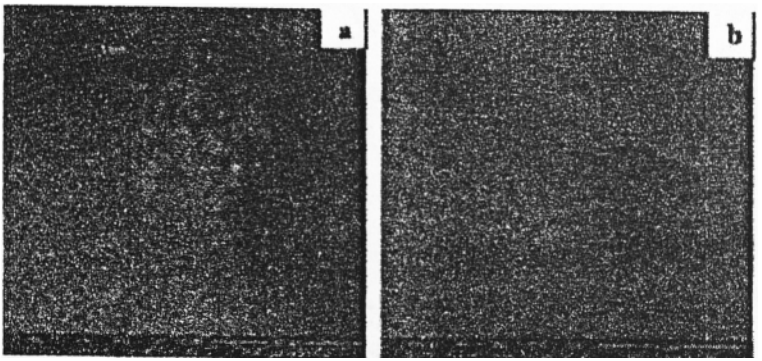

Fig. 1. SEM of S. platensis cells at different magnifications at 1 mM AgNO3 fol day (a) and for 5 days (b)

COMPOSITION AND STRUCTURE DIFFERENT GRAZING PASTURE IN DRY STEPPE ZONE

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Introduction

During the field survey have been observed that such communities as *Forbs-Neddlegrass, Nedllegrass-forbs-sagebrush* have been dominated in foot hills of mountain, and such communities as *Grass-Caragana, Nedllegrass-Forbs, Sedge-Grass, Sage-Sedge* have been dominated in south face slope of mountain, and such communities as *forbs-Caragana, Cleistogenes-Stipa-Caragana, Stipa-Elymus-Sedge, Sedge-Sage, Elymus-Sage* in the dry steppe.

Altanbulag soum Tuv province area has 566866 hectare while its livestock population is 182670 sheep unit. Total pasture area of Altanbulag soum 15% is slightly grazed, 29% is moderately grazed, 56% is overgrazed used.

Study site: The study included the areas of Altanbulag soum Tuv province of Mongolia. The pastureland utilization was determined during the field research in summer 2009.

Methods: We did detailed using the method by A. P. Shennikov (1964). I. A. Larin (1956), O.Chognii (2001) is method used to define vegetation cover and commmities, plant biomass and pasture degradation.

Result:

1. Composition and structure Slightly grazed pasture. This is level forbs-neddlegrass pasture widespread on the tap and back side in mountain. Canopy cover of vegetationwas 65-70%, bare ground was 30-35%. Eight plant species on average was recorded per square meter. Height of vegetative tissue was 7.0-8.5 cm on average and generative tissue was 13.0-15.5 cm. Dominant species was *Stipa krylovii* from grass, subdominant was *Cleistogenes squarrosa, Agropyron cristatum,* from forb *Potentilla acaulis,* from sage were *Artemisia frigida, Artemiisa adamsii,*from sedge was *Carex duriuscula.* Total plant average biomass was 58.3g/$m^2$of which 37.8% was a grass; 34.2% was a forb; 19,1 % was a sage; 8.2% was a sedge; 0.7% was a legume. The overall biomass was changed according to utilization

degree of pasture (Table 1; Figure 1)

Table 1. Composition of total plant biomass (by percent,%) of different grazing pasture of Altanbulag soum

Pasture use		Slightly grazed	Moderately used	Overgrazed
Total plant biomass		58.3 g/m^2	40.1 g/m^2	46.0 g/m^2
From which by per cent				
By functional groups	Grass	37.8	33.0	8.6
	Forb	34.2	14.0	12.0
	Sage	19.1	33.3	63.3
	Sedge	8.2	5.2	10.8
	Legume	0.7	11.6	4.6
	Horsetell	0.0	2.6	0.7
Species number per square meter		8.1	9.2	8.2
Canopy cover (%)		85-95%	60-75%	45-50%

2. **Composition and structure Moderately used pasture.** This is level sedge-grass pasture widespread on the mountain steppe, plateau steppe. Canopy cover of vegetationwas 65-85,bare ground was 20-35%. Nineplant species on average was recorded per square meter. Height of vegetative tissue was 4.2 cm on average and generative tissue was 8.0 cm. Dominant species is *Cleistogenes squarrosa,* from grass, subdominant was *Agropyron cristatum, Stipa krylovii* from forb *Potentilla bifurca,Potentilla acaulis,* from sage were *Artemisia frigida, Artemiisa adamsii,*from sedge was *Carex duriuscula,wa.sEphedra sinicaof* draftshruband *Lappula intermediaof* annual plant.Total plant average biomass was 40.1g/m^{2}of which 33.0% was a grass; 33.3% was a sage; 14.0% was a forb; 11.6% was a legume;5.2% was a sedge; 2.9% was a *Ephedra* (horsetell) (Table 1; Figure l).On the moderately used pasturethe biomass of sage and horsetellis increased such as capacity of the grass.

3. Composition and structure Overgrazed pasture. This is level sedge-sage pasture widespread on the river valley such as summer pasturelands which have many herders and mountain steppe such as autumn and winter pasturelands. Canopy cover of vegetationwas 50-60%,bare ground was 45-55%. Eightplant species on average was recorded per square meter. Height of vegetative tissue was 7-9 cm on average and generative tissue was 5-6 cm. Dominant species is *Artemisia Adamsiifrom* sage, subdominant was from sedge *Carex duriuscula,*from *grassCleistogenes squarrosa.*Grasssuch as *Stipa kryloviiand Agropyron cristatum* is abundance

straightlydecreased.In resent years, global change also effected on pasture plant composion, growth rate and plants bioproductivity.Total plant average biomass was 46.0 g/m^{2}of which 63.3% was a sage; 12.0% was a forb; 10.8%was a sedge; 8.6% was a grass; 4.6% was a legume;0.7% was a *Ephedra* (horsetell)

On the overgrazed pasturethe biomass of sage is increased untill 63.3% such as amountof the Grass. Hovewer, the toted biomass of moderately used and overgrazing pastures are same (40.6-40.7g/m^2), Grass's biomass by percent of the slightly used and moderately used pasture is occupied (37.8-33.0%). The amount of sage percents has increased by 2-3 times which can be (33.3-63.3 g/m^2) (Table 1; Figure 1).

Conclusion About 80 percent's total areas of Altanbulag soum belong to moderately used and strongly degraded category. Also have been observed that sage average biomass increased to 63.3 g/m^{2}and amount of grass averagebiomass decreased to 8.6 g/m^2.

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