

Physical and chemical properties of soils and plant biology of the territory of Atyrau region



M S YESSENAMANOVA¹, G O KISSIMOVA¹, U K
BISSENOV¹, K SH NURGAZY² AND M ZH
DUISSEGALIYEV¹

¹KH.DOSMUKHAMEDOV ATYRAU UNIVERSITY,
ATYRAU, STUDENT AVENUE 1, REPUBLIC OF
KAZAKHSTAN

²KAZAKH NATIONAL AGRARIAN UNIVERSITY,
ALMATY, ABAI AVENUE 8, REPUBLIC OF
KAZAKHSTAN

Table 1. Provision of soils with mobile phosphates (in mg P_2O_5 per 100 g of soil) according to their content in Chirikov's extract

Culture			
Degree of availability	Cereals, legumes	Root vegetables, potatoes	Vegetable, technical
Extremely low	< 2	< 5	< 10
Low	< 5	< 10	< 15
Average	5–10	10–15	15–20
High	> 10	> 15	> 20

Figure 1. Phosphorus content in soil samples in Akkistau village, Atyrau region

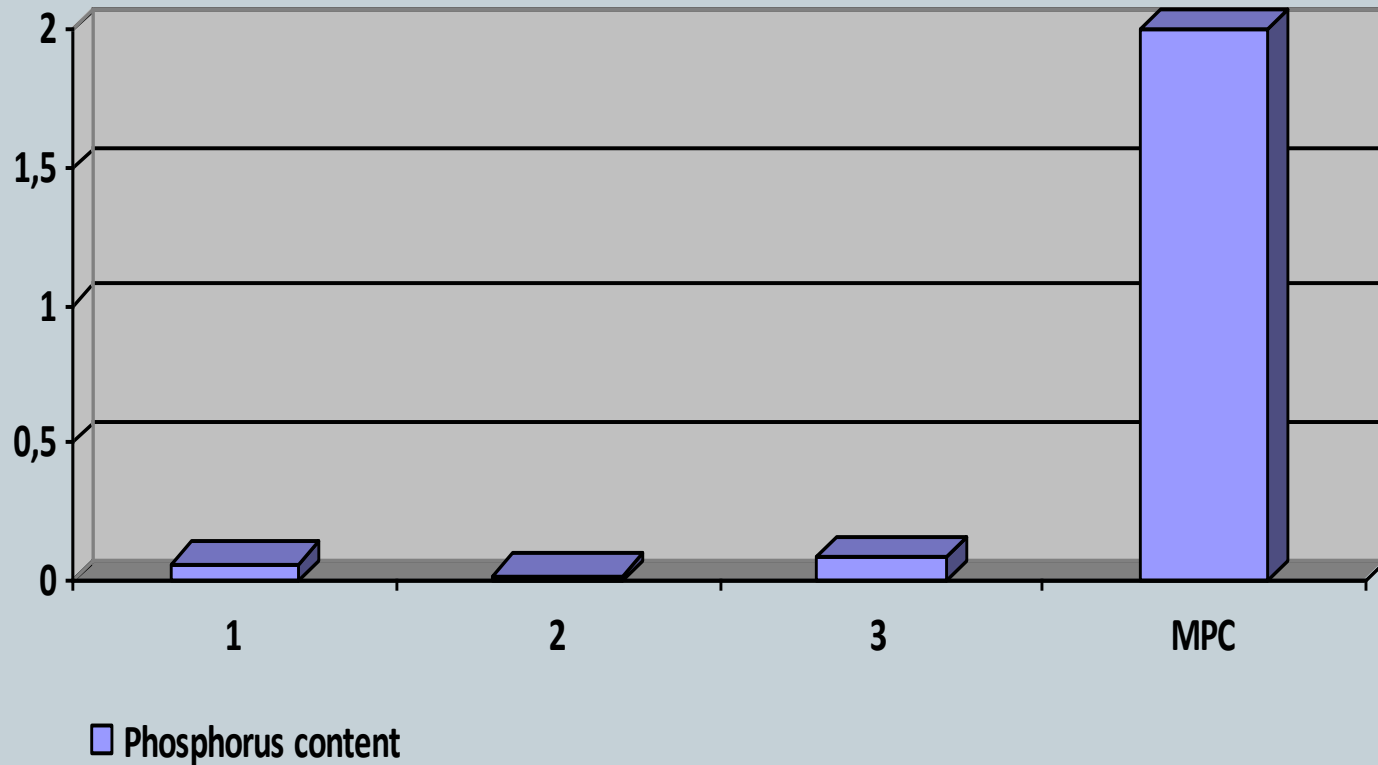


Figure 2. Humus content in soil samples in Akkistau village, Atyrau region

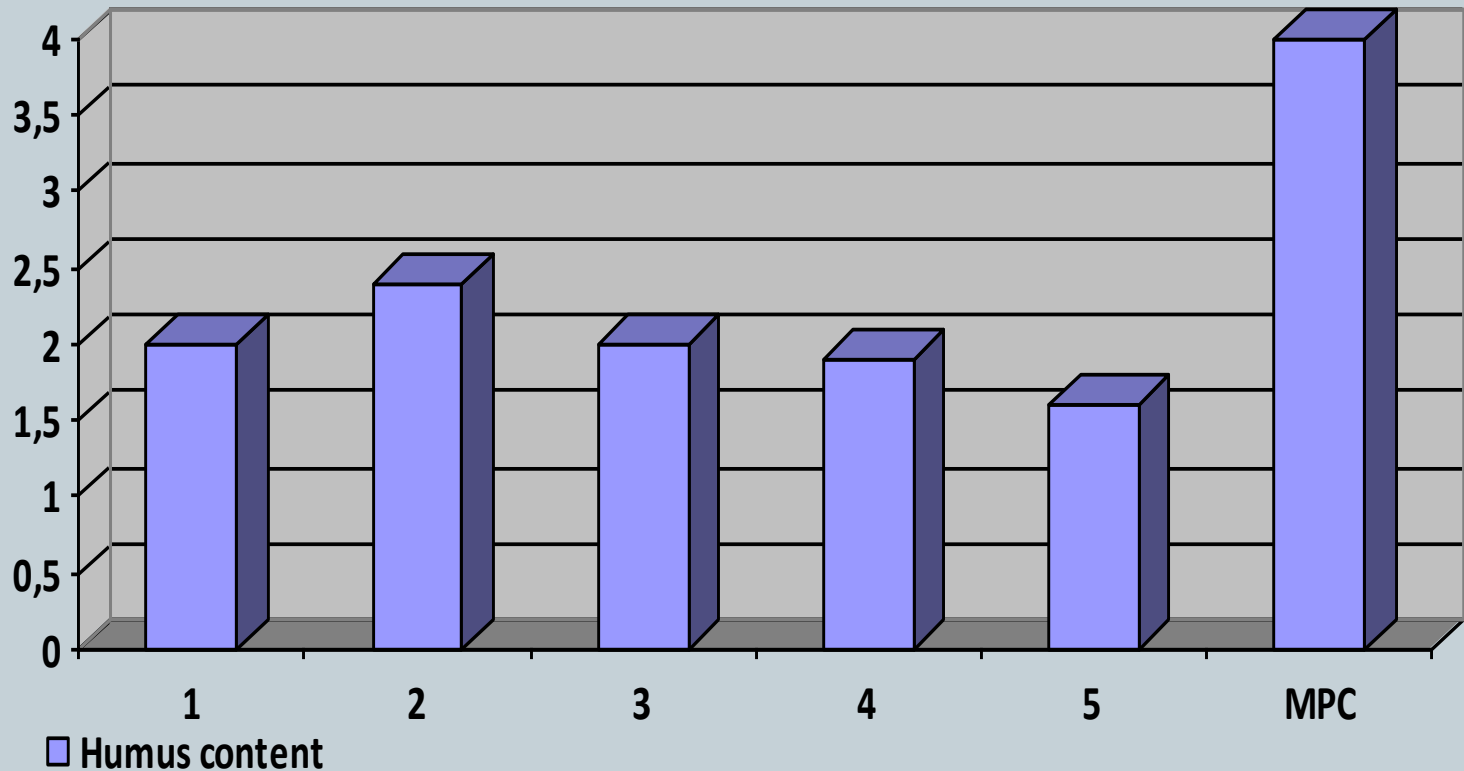


Figure 3. pH in soil samples in Akkistau village, Atyrau region

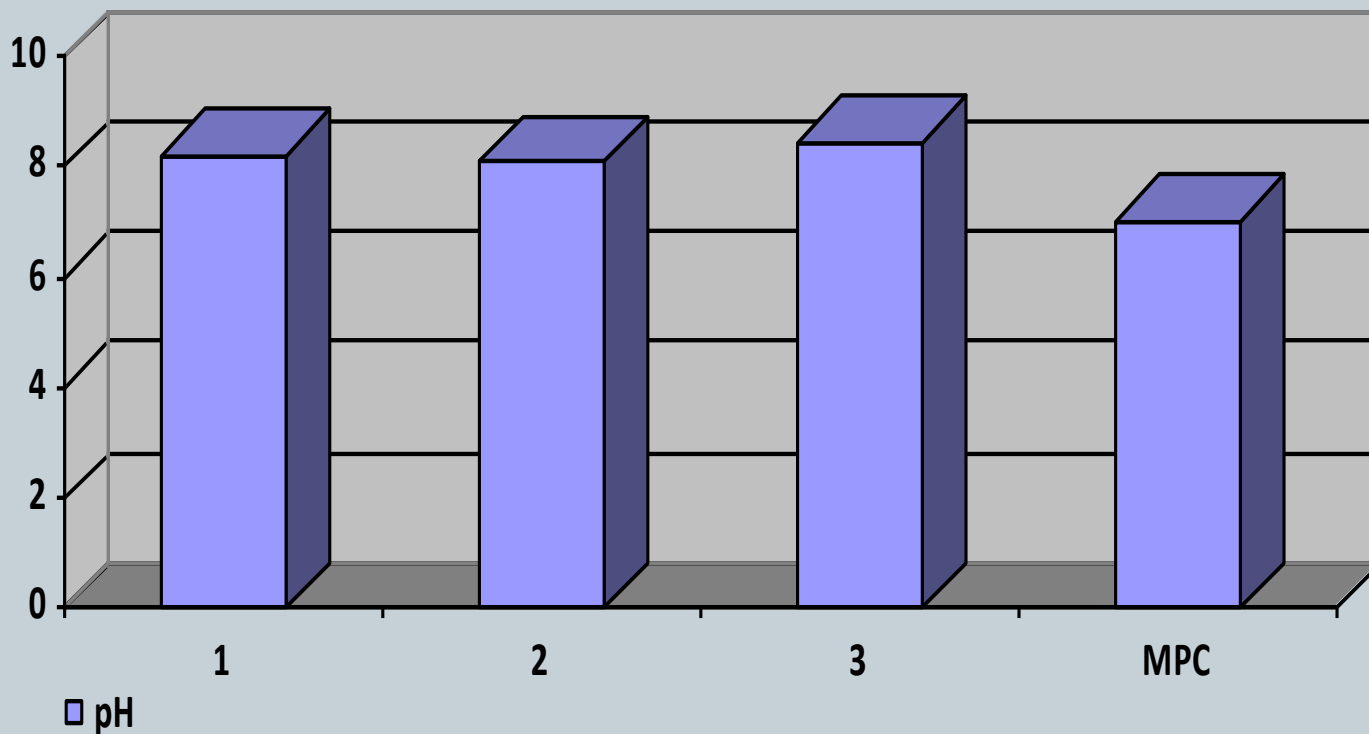
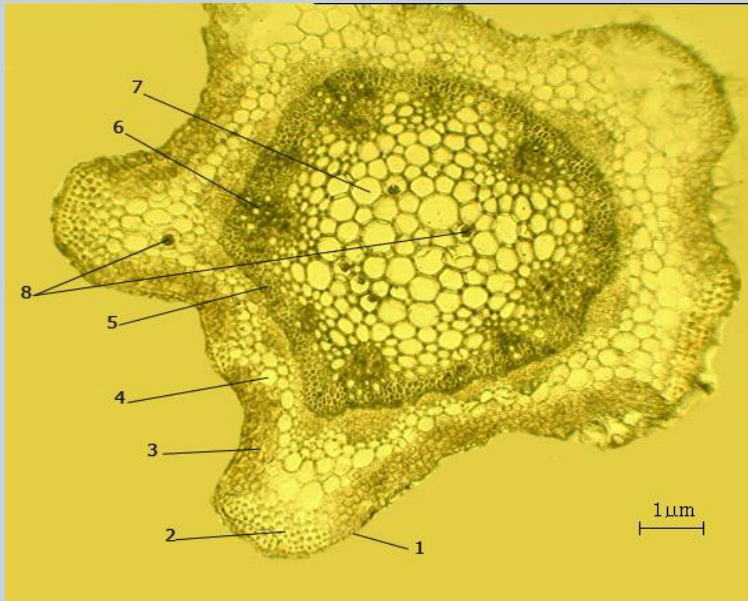


Figure 4. Horizontal section of the stem of *Atriplex nitans* plant (x 180)



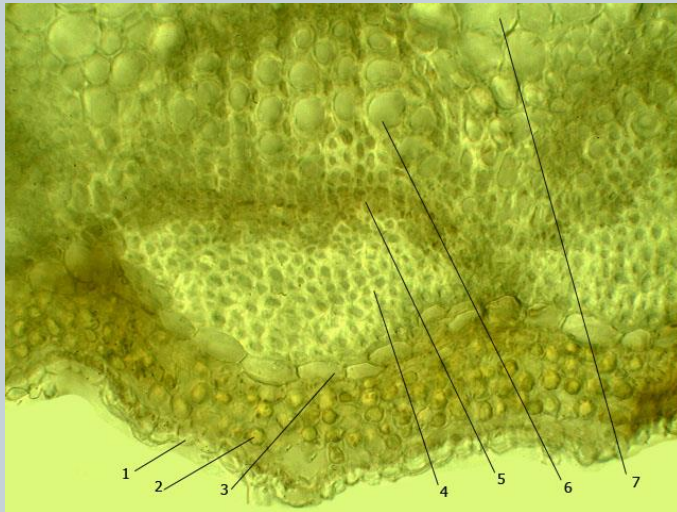
1-epidermis, 2-collenchyma,
3-4-parenchyma of the
primary membrane, 5-bundle
parenchyma, 6-conductive
bundle, 7-rod, 8-drusen

Figure 5. Peripheral part of the stem of *Atriplex nitans* plant (x 720)



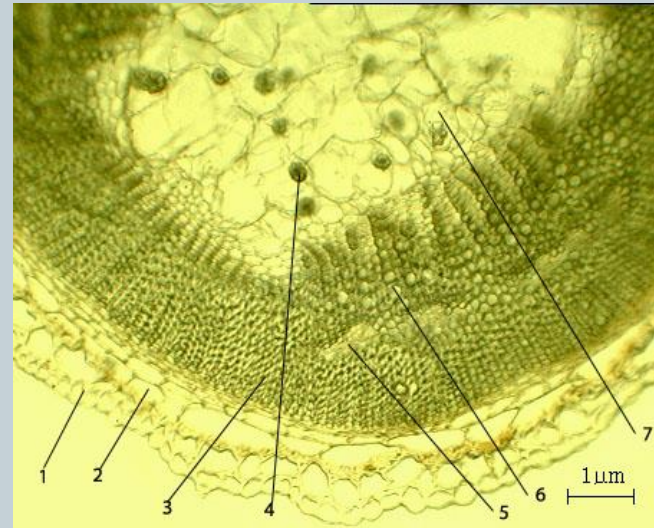
1-primary parenchyma membrane,
2-phloem, 3-xylem, 4-rod
parenchyma

Figure 6. Horizontal section of the stem of *A.fragans* Willd plant (x 720)



1-epidermis, 2-parenchyma of the primary membrane, 3-endoderm, 4-phloem, 5-cambium, 6-xylem, 7-core

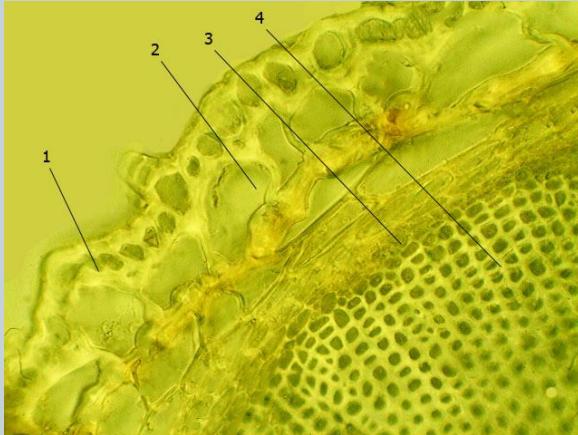
Figure 7. Horizontal section of *S.rosaceae* L. plant stem (x 180)



1-epidermis, 2-primary membrane, 3-phloem, 4-druse, 5-cambium, 6-xylem, 7-core

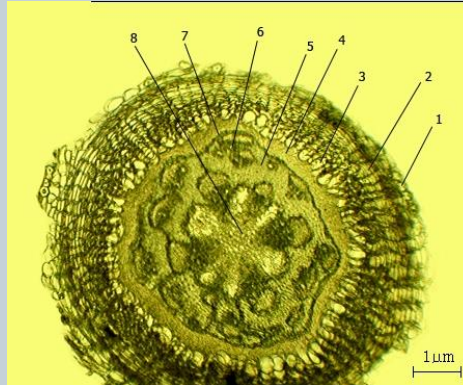
Figure 8.

Anatomical structure
of *S.rosaceae* L plant
stem (x 720)



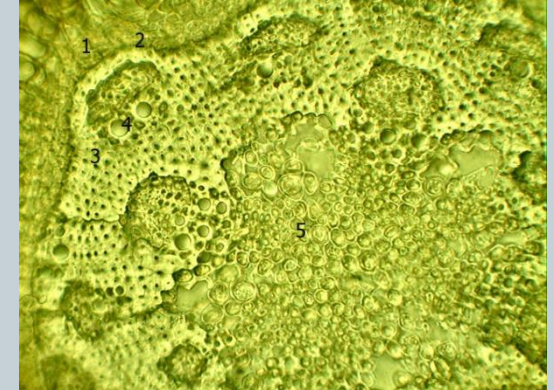
1-epidermis, 2-
parenchyma of the
primary membrane, 3-
endoderm, 4-
sclerenchyma

Figure 9. Horizontal cut
of *H.strobilaceum* (Pall)
M.B. plant stem (x 180)



1-epidermis, 2-primary
membrane, 3-phloem, 4-
drusen,
5-cambium, 6-xylem, 7-
rod parenchyma

Figure 10. Peripheral part of
H.strobilaceum (Pall) M.B.
plant stem (x 720)



1-phloem, 2-
cambium, 3-
sclerenchyma, 4-
xylem, 5-rod
parenchyma