

A study of forage germplasm resources and their utilization in Heilongjiang province China

Luo xinyin , Li hong , You haiyang

Institute of Animal Science of Heilongjiang province , Qiqihaer 161005 , China

Key words : Heilongjiang , forage , germplasm , resource , utilization

Heilongjiang Province has 4.33 million hectares of grassland of which the Sanjiang grassland is 0.665 million hectares , the grass mountain and grass slope is 1.8 million hectares , and the western grassland is 1.865 million hectares , the most importance part of the Songnen grassland . Because of the differences of ecologic environment there are abundant cold tolerant , anti-alkali tolerant , drought and barren tolerant species and biotypes . Identifying germplasm resources and their scientific utilization is necessary not only for the development of animal husbandry , but also for control of the environment .

Forage germplasm resource composition The continuity of the Daxinganling , Xiaoxinganling , and Zhangguangcailing mountains , whose peaks rise and fall along the skyline are natural woodland and these mountain ranges resemble a horse's hoof that encircles the Songnen plain , with interleaving forest and grasslands , temperate zones and cold temperate zones . Therefore , there are three types of plant flora in this area : Mongolia , Changbai and Xingan . In this complicated area , about 2100 species are distributed , and about 1000 of them have an economic value According to investigations there were 11 families , 227 genera , and 796 species . .

Utilization and researching of germplasm resources

Domestication of wild species *Leymus chinensis* (Trin.) Tzvel were domesticated in the 1960s and *Melissitus ruthenicus* C.W. Chang in the 1970's . They were registered by the Chinese Herbage Cultivar Registration in 1988 .

Native species and the new species *Medicago sativa* L in Zhaodong adopted a protection and grow measure , becoming with cold tolerant , drought tolerant for the native species registered in 1989^[1] .

The diploid *Melissitus ruthenicuse* C.W. Chang crossing with traploid *Medicago sativa* L cv . zhaodong which was successfully bred^[3] using of the artificial inducing method with the ⁶⁰Co-rwhich increased seed matur of *Astraglus adsurgens* Pall in Heilongjiang .

Introduced varieties The best foreign *Medicago* species is *Medicago varia* Martin .cv . Rambler , and the better domestic *Medicago* species are the Caoyuan No 1 and No 2 , the Gongnong No1 and 2 . The grasses are *Elymus dahuricus* Turcz , *Elymus sibericus* L . , *Broumus inermis* Leyss , and *Agropyron mongolicum* . Keng , *Agropyron cristatum* (L .) Gaertn , *Agropyron cristatum* (Linn .) var . pectiniforme (Roem . et Schult .) H . L . Yang , *Agropyron trachycaulum* etc .

Utilization and exploitation of forage germplasm resources The collection , utilization and breeding of forage germplasm . Wild forage domestication for cultivation and their characteristics . Breeding of high yield , superior quality , cold tolerant varieties . The selection of drought tolerant , barren tolerant varieties . The selection of salt-alkali tolerant species .

References

Licensed Cultivars of Herbage crops in China , Beijing Agricultural University Press in China 1992 .

Luo xinyi , The characters of *Melissitus ruthenicus* C.W. Chang [J] *Pratacultural Science* , 1993 .(3) :24-26 .

Wangdiankui , Li hong & Luo xinyi , Research on distant hybridization between *Melissitus ruthenicus* C.W. Chang and *Medicago sativa* Zhaodong [C] *International Grassland Congress* , Nice , France , 1989 , p333-334 .