

## Compound system and benefit analysis about Legumes forage intercrop with prickly ash in linxia

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**Key words :** tree-grass complex, soil water, forage

**Introduction** We investigated the benefit of tree-grass complex in linxia gansu province, China. This area is arid and semi-arid, and the soil is proven and less than what their need, ecological forestry and economic forestry play an impotent role in local. So finding new models to develop forest is meaningful.

**Material and methods** Tish research is located in linxia gansu province based on 9 years Chinese prickly ash intercropping with alfalfa, white clover and bird's foot trefoil. We studied the ecological and economic efficiency using ecology principle and method. We test the soil moisture of different distance between trees use TSC II intelligence soil moisture fast tester.

**Conclusions** We test 6-20cm soil moisture, the results show that (Figure 1): Tree-grass complex enhance the soil moisture content in the forest land which interplanting forage, plays the role of water resource conservation. Because the water resource conservation effect on three kind of leguminous forages, so the alfalfa is stronger than white clover and lotus corniculatus. Moreover, along with depth increase, its difference is smaller. About the water use efficiency that white clover is higher than the other.

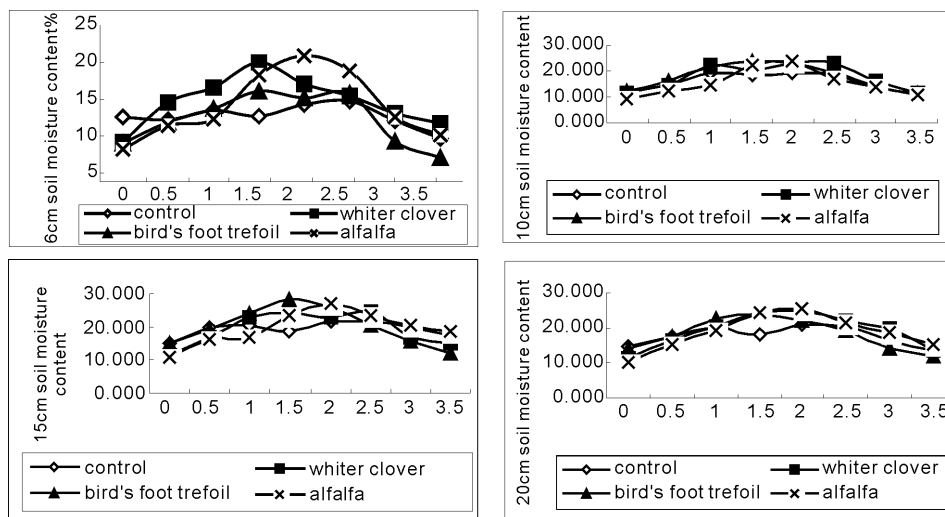


Figure 1 The change of soil water of whiter clover, bird's foot trefoil, alfalfa and ck in different.

Table 1 The situation of each intercropping forest land soil fertility unit (mg/kg).

	N	P	K	pH
Alfalfa (mg/kg)	54.05	42.29	113.92	8.70
Bird's foot trefoil (mg/kg)	55.36	27.55	273.12	8.82
Whiter clover (mg/kg)	46.11	20.29	133.26	8.78
Control (mg/kg)	39.6	25.36	188.45	8.82

Table 1 indicates that Because of the leguminous forages has the strong own nitrogen-fixing capacity, after intercropping leguminous forage, obviously enhances the soil fertility, particularly soil nitrogen. In Linxia Gansu province, the three kind of leguminous forages in do not Rhizobium, lotus corniculatus's own nitrogen-fixing capacity stronger than alfalfa and white clover.

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