

Ecologyassignment assignment



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It has been added to several noxious weed lists and is studied for its symbiotic relationship with various soil bacteria Key words: Invasive plants, Lisperd cantata, Praseodymium, symbiosis, competition, control, silk bush clover By Alexander Make 238991 Bio 2129 Department of Biology University of Ottawa Introduction: Native to Asia and eastern Australia, Lisperd cantata, has been added to multiple noxious weed lists due to its severe effects on other vegetation indigenous to North America.

Predominantly invasive in east and central United states, it has an extensive tap root growing deeper than 1 meter in length, and a tall branching, flowering stem that grows to a Max of 2 meters above the surface. It was introduced in the sass in order to rehabilitate drought areas and revivalist vegetation as it was capable of surviving harsh drought areas. Ultimately, it became a very serious threat to other vegetation, and has over shadowed it's native cousin Lisperd Virginia.

Researchers from the University of Illinois are investigating how various soil bacteria interact with the highly aggressive Lisperd cantata, and how they form the strong symbiotic bonds required to fix nitrogen with such efficiency. Research was conducted by the University of Illinois by professors Lining Huh, Ryan R. Busby, Dick L. Gephardt, Anthony C. Yawner and was supported by a grant from the U. S. Army Engineer Research and Development center.

Symbiosis Lisperd cantata is capable of outperforming the competition due to its symbiosis with various bacteria in the soil. This relationship allows it to effectively fix nitrogen in a way that its native competitors are incapable of

doing. The study shows that after testing an isolated pool of 50 bacteria, from the nodules in both invasive and native lessened, some were unusual and untraditional nodule forming bacteria. It was concluded that the two species of *Lisped* do not receive the same benefits from their relationships with their rational partners.

Different strains of microbial partners resulted in *Lisped cantata* to grow significantly larger than its counterpart which did not improve whatsoever. Competition: *Lisped cantata* is far more dominant over its north and south American counterparts, such as *Lisped Virginia* for example. With its ability to thrive in dry conditions, it outlasts other vegetation in the area while also being aliphatic, causing it to produce chemicals and substances to inhibit the growth of other plants.

It is also far more efficient at fixing nitrogen than its native cousins. Also, as stated by Beaten et al. 011, invasive species exhibit far more aggressive behaviors which match the competitive ability hypothesis that states a lack of natural enemies allows invasive plants to thrive in an area where they can distribute their energy more effectively towards growing, and less towards defensive measures.

Facts Sheet Identification: *Lisped Cantata* kingdom: Plantar Phylum: Angiosperms Class: Opinions Order: Fables Family: Effaceable Genus: *Lisped* Species: *cantata* Habitat: The *Lisped cantata*, or “ Chinese bush-clover”, is indigenous Asia and eastern Australia. Although, it is an invasive weed that can be found wrought the eastern and central United States as well as parts of Canada, Brasilia, Mexico, and South Africa. It has a highly aggressive

behavior with a woody taproot capable of growing well past mm in length and growing branching stems of up to two meters in height.

Due to its invasive nature, it causes the abundance and diversity of local wildlife and vegetation to decrease significantly. It exists in areas susceptible to drought as its deep roots allow it to survive the harsher conditions.

Countermeasures: Possible ways to control the invasive weed would be the use of illogical pest controls such as grazing animals such as goats and cows who are attracted by their large stems, or natural predators such as the Lisperd Weber.