

Planting Haloxylon ammodendron under photovoltaic panels

Does precipitation affect photosynthetic and physiological characteristics of Haloxylon ammodendron?

An in-situ field experiment was established to examine the influence of a long-term enhanced precipitation and N deposition on the photosynthetic traits and physiological characteristics of Haloxylon ammodendron in the Gurbantunggut Desert, northwest China, throughout the growing season in 2014-2016.

Is Haloxylon ammodendron a xerophytic desert shrub?

The xerophytic desert shrub Haloxylon ammodendron is distributing naturally in Asian and African deserts [24,25], and is widely accepted for use in vegetation restoration in the desert regions of northern China because of its previous success in stabilizing sand dunes.

Why is Haloxylon ammodendron important?

As a shrub species that dominates single or mixed plant communities in the Gurbantunggut Desert, Haloxylon ammodendron is important for sand dune stabilization, and facilitating favorable nutrient and water conditions for other undergrowth vegetation, thereby maintaining the function and structure of arid ecosystems.

Is H ammodendron a good plant?

H. ammodendron is a significantly longer-lived shrub species and is well suited to the arid desert regions of western China, even though in our study it lost 30% coverage over 5 decades.

Does water and N increase water use efficiency of Haloxylon ammodendron?

Diurnal variations of water potential (PSs) and water use efficiency (WUE) of Haloxylon ammodendron under water and N increases of 30%, respectively. (A,B) WUE; (C,D) PSs. Effect of water and N addition on proline (Pro), soluble sugar (SS) and soluble protein (Pr) of Haloxylon ammodendron. Error bars represent standard deviation (n = 3).

How does H ammodendron affect photosynthesis at deep groundwater depth?

H. ammodendron reduced optimal photosynthetic temperatures at deep groundwater depth. H. ammodendron increase photochemical efficiencies at deep groundwater depth. Photosynthesis rate and stomatal conductance were decouple at high twig temperature. H. ammodendron changed twig size and biomass distribution at deep groundwater depth.

Identical lowercase letters in panels C and D indicate the windward and leeward sides of the same branch of H. ammodendron seedlings; the right end of the segments in panels C and D is toward the ...

Haloxylon ammodendron (C.A.Mey.) Bge. is crucially important for stabilizing sand dunes in the desert area of the Junggar Basin and has thus been widely planted in the oasis-desert ecotone for windbreak and sand ...

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Values in the same panel labeled with different letters are significantly different at $P < 0.05$ desert plant *Haloxylon ammodendron* under drought stress. Plant . Growth ...

Haloxylon ammodendron is a xerophytic perennial shrub or small tree that has a high ecological value in anti-desertification due to its high tolerance to drought and salt stress. ...

Haloxylon ammodendron (C.A. Mey.) Bunge. is a candidate plant species for restoration, but low water availability constrains its germination and establishment. Thus, active restoration ...

Haloxylon ammodendron is a desert shrub widely used as a windbreak and for sand fixation, and it has achieved remarkable results in China. However, in desert areas, large-scale afforestation ...

Haloxylon ammodendron (H. ammodendron) is a second-class protected plant of national significance in China that is known for its growth in desert and semidesert regions, where it serves as a desert ecosystem ...

The xerophytic desert shrub *Haloxylon ammodendron* (C. A. Mey.) Bunge. is distributed naturally in Asian and African deserts, and is widely used for vegetation restoration in the desert regions of Northern China. ...

Haloxylon ammodendron (H. ammodendron) is a second-class protected plant of national significance in China that is known for its growth in desert and semidesert regions, ...

Abstract. *Haloxylon ammodendron* is a xerophytic perennial shrub or small tree that has a high ecological value in anti-desertification due to its high tolerance to drought and ...

A series of wind tunnel tests were implemented with artificial shrubs representing *Haloxylon ammodendron*. These tests were designed with three planting densities (i.e., 600 ...

In order to reveal the drought resistance and adaptation of the C4 desert plant *Haloxylon ammodendron* under artificially controlled soil moisture regimes, representative ...

Diurnal variations of intercellular CO₂ concentration (C_i), net photosynthetic rate (P_N), stomatal conductance (G_S) and transpiration rate (T_R) of *Haloxylon ammodendron* under water and N...

Abstract: Understanding the spatial distribution of plant species and their dynamic changes in arid areas is crucial for addressing the challenges posed by climate change. *Haloxylon* ...

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