

Aerial seeding and seed-based propagation of *Spartina alterniflora* for large-scale coastal erosion control and habitat restoration

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ABSTRACT

Louisiana is experiencing tremendous wetland coastal loss annually. A large-scale revegetation technique that can cover great areas and reach any marsh interiors most affected by erosion is crucial to control this widespread erosion. Native coastal marsh plants have provided a natural defense against erosion but currently are unable to cope with such pressure. Developed from a diverse genetic background, an improved version of native marsh plants composed of superior fertile smooth cordgrass (*Spartina alterniflora*) lines has been developed. These genetically improved plants are being used to develop a seed-based propagation technique for aerial seeding in a large-scale restoration. Establishment of foundation plots, DNA fingerprinting identification, cultural practices, seed harvesting, storage, and handling, and aerial seeding as well as their potential use for stabilizing the eroding marsh and rejuvenating degrading saltmarshes will be discussed. The on-going research is also focused on a potential commercial seed production by plant growers. Seed-based propagation of smooth cordgrass and aerial planting can be incorporated into the overall wetlands reconstruction efforts, by providing more resilient living structures that hold fragile soils in creation of new marshes, barrier islands, and beneficial use of dredge sediments.

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