

3333. STIPA TENACISSIMA.**Esparto.**

From Algeria. Donated by Dr. Trabut, Government Botanist of Algeria.
Received through Mr. W. T. Swingle, March, 1899.

"This grass, called Halfa by the Arabs, and Esparto by the Spaniards, grows on the arid and high plateaus of northern Africa and to some extent in Spain and southern France. It is extensively collected for use in making high grade book paper in England. The leaves are 18 inches to 2 feet long, wiry, and almost cylindrical. They have the peculiarity of breaking off at the base where they articulate with the sheath. This enables the collectors to grasp the bundle of leaves and detach them from the plant by exerting a steady pull. These leaves are then grouped according to their color and length, tied in bundles, and exported. Much esparto is used in North Africa for the manufacture of cordage and baskets, while a small amount of the very best quality is shipped to Italy and Austria for use in manufacturing cigars, a bit of the leaf being placed in the middle of each cigar to facilitate manufacture. This plant grows at high altitudes in Algeria where the winters are cold and where it is exceedingly dry in summer. About a million dollars' worth of esparto is exported from Algeria annually. In 1885 the exports from Algeria amounted to 95,000 tons; from Tripoli 62,000 tons; from Spain 44,000; from Tunis 20,000; from Morocco 3,000. It is estimated that out of 225,000 tons a year, considered to be the average amount exported, 210,000 tons are used for making paper. About 200,000 of the 225,000 tons are consumed in England. In Spain this grass has been cultivated for many years. If grown from seed, the latter are collected from May to July, according to the locality, and are sown in September. Care must be taken to collect the heads as soon as they are ripe, otherwise the seeds are carried away by the wind. It takes ten years for the plant to become large enough to yield a quantity of leaves sufficient to repay the labor of gathering. The more common method of planting is to divide the tufts into four or more pieces, which are planted in September. The leaves of such plants are harvested within seven or eight years after planting. An acre contains from 1,200 to 2,000 tufts and should yield from 500 to 1,000 pounds of dry leaves. It is not impossible that the esparto grass may be grown profitably in some parts of the Southwest. It is probable, however, that the hand labor of gathering leaves will seriously interfere with the profitableness of such industry. It would probably succeed as far as climate is concerned throughout western Texas, New Mexico, and southern California. It should be noted that the esparto grass does not succeed on alkali soils. It prefers the drier elevations to the more moist and more alkaline depressions. *Albardine* or *Sennerah* (No. 3334), on the other hand, is able to withstand alkali, and grows in the depressions in preference to the elevations. The esparto grass yields a fresh crop of leaves every year." (*Swingle.*)

3334. LYGEUM SPARTUM.**Albardine.**

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Also called *Sennerah*. Albardine grows in depressions, while Halfa (No. 3333) grows on the hilltops. This grass, often confused in books with esparto grass, is totally different from it, and is never confounded by those who collect or use the leaves. The leaves do not contain nearly as much fiber as do those of esparto. In paper making the waste is greater in using albardine, but the fibers are said to be fully equal to those of the esparto. The leaves sell for the same price. While the esparto grows all over the high plateaux of North Africa attaining an altitude of 6,000 feet, the albardine does not grow at above 3,000 feet. As mentioned under No. 3333, this grass is able to withstand considerable amounts of alkali. It is easily propagated from the seed. It is a perennial, and like the esparto furnishes new crops of leaves every year.

3335. POPULUS ALBA INTEGRIFOLIA.**Poplar.**

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A most valuable native poplar grown from cuttings in Algeria. Should be tested in the Southwest in comparison with the poplars already grown there along the irrigating ditches. (See Nos. 3344 and 2700.)