

IN PRAISE OF BLUE GRASS

JOHN JAMES INGALLS (1833-1900)

JOHN JAMES INGALLS was Senator from Kansas from 1873 to 1891. An address of his, printed in the *Kansas Magazine* in 1872 and here reprinted in part because copies of it are hard to get, contains a passage that is quoted often. He was an eloquent man but not a scientist.

ATTRACTED by the bland softness of an afternoon in my primeval winter in Kansas, I rode southward through the dense forest that then covered the bluffs of the North Fork of Wildcat. The ground was sodden with the ooze of melting snow. The dripping trees were as motionless as granite. The last year's leaves, tenacious lingerers, loath to leave the scene of their brief bravery, adhered to the gray boughs like fragile bronze. There were no visible indications of life, but the broad, wintry landscape was flooded with that indescribable splendor that never was on sea or shore—a purple and silken softness, that half veiled, half disclosed the alien horizon, the vast curves of the remote river, the transient architecture of the clouds, and filled the responsive soul with a vague tumult of emotions, pensive and pathetic, in which regret and hope contended for the mastery. The dead and silent globe, with all its hidden kingdoms, seemed swimming like a bubble, suspended in an ethereal solution of amethyst and silver, compounded of the exhaling whiteness of the snow, the descending glory of the sky. A tropical atmosphere brooded upon an arctic scene, creating the strange spectacle of summer in winter, June in January, peculiar to Kansas, which unscen cannot be imagined, but once seen can never be forgotten. A sudden descent into the sheltered valley revealed an unexpected crescent of dazzling verdure, glittering like a meadow in early spring, unreal as

an incantation, surprising as the sea to the soldiers of Xenophon as they stood upon the shore and shouted "Thalatta!" It was BLUE GRASS, unknown in Eden, the final triumph of nature, reserved to compensate her favorite offspring in the new Paradise of Kansas for the loss of the old upon the banks of the Tigris and Euphrates.

Next in importance to the divine profusion of water, light, and air, those three great physical facts which render existence possible, may be reckoned the universal beneficence of grass. Exaggerated by tropical heats and vapors to the gigantic cane congested with its saccharine secretion, or dwarfed by polar rigors to the fibrous hair of northern solitudes, embracing between these extremes the maize with its resolute pennons, the rice plant of southern swamps, the wheat, rye, barley, oats, and other cereals, no less than the humbler verdure of hill-side, pasture, and prairie in the temperate zone, grass is the most widely distributed of all vegetable beings, and is at once the type of our life and the emblem of our mortality. Lying in the sunshine among the buttercups and dandelions of May, scarcely higher in intelligence than the minute tenants of that mimic wilderness, our earliest recollections are of grass; and when the fitful fever is ended, and the foolish wrangle of the market and forum is closed, grass heals over the scar which our descent into the bosom of the earth has made, and the carpet of the infant becomes the blanket of the dead.

As he reflected upon the brevity of human life, grass has been the favorite symbol of the moralist, the chosen theme of the philosopher. "All flesh is grass," said the prophet; "My days are as the grass," sighed the troubled patriarch; and the pensive Nebuchadnezzar, in his penitential mood, exceeded even these, and, as the sacred

historian informs us, did eat grass like an ox.

Grass is the forgiveness of nature—her constant benediction. Fields trampled with battle, saturated with blood, torn with the ruts of cannon, grow green again with grass, and carnage is forgotten. Streets abandoned by traffic become grass-grown like rural lanes, and are obliterated. Forests decay, harvests perish, flowers vanish, but grass is immortal. Beleguered by the sullen hosts of winter, it withdraws into the impregnable fortress of its subterranean vitality, and emerges upon the first solicitation of spring. Sown by the winds, by wandering birds, propagated by the subtle horticulture of the elements which are its ministers and servants, it softens the rude outline of the world. Its tenacious fibres hold the earth in its place, and prevent its soluble components from washing into the wasting sea. It invades the solitude of deserts, climbs the inaccessible slopes and forbidding pinnacles of mountains, modifies climates, and determines the history, character, and destiny of nations. Unobtrusive and patient, it has immortal vigor and aggression. Banished from the thoroughfare and the field, it bides its time to return, and when vigilance is relaxed, or the dynasty has perished, it silently resumes the throne from which it has been expelled, but which it never abdicates. It bears no blazonry or bloom to charm the senses with fragrance or splendor, but its homely hue is more enchanting than the lily or the rose. It yields no fruit in earth or air, and yet should its harvest fail for a single year, famine would depopulate the world.

One grass differs from another grass in glory. One is vulgar and another patrician. There are grades in its vegetable nobility. Some varieties are useful. Some are beautiful. Others combine utility and ornament. The sour, reedy herbage of swamps is base-born. Timothy is a valuable servant. Redtop and clover are a degree higher in the social scale. But the king of them all, with genuine blood royal, is

BLUE GRASS. Why it is called blue, save that it is most vividly and intensely green, is inexplicable, but had its unknown priest baptized it with all the hues of the prism, he would not have changed its hereditary title to imperial superiority over all its humbler kin.

Taine, in his incomparable History of English Literature, has well said that the body of man in every country is deeply rooted in the soil of nature. He might properly have declared that men were wholly rooted in the soil, and that the character of nations, like that of forests, tubers, and grains, is entirely determined by the climate and soil in which they germinate. Dogmas grow like potatoes. Creeds and carrots, catechisms and cabbages, tenets and turnips, religions and rutabagas, governments and grasses, all depend upon the dew point and the thermal range. Give the philosopher a handful of soil, the mean annual temperature and rainfall, and his analysis would enable him to predict with absolute certainty the characteristics of the nation.

Calvinism transplanted to the plains of the Ganges would perish of inanition. Webster is as much an indigenous product of New England as its granite and its pines. Napoleon was possible only in France; Cromwell in England; Christ, and the splendid invention of immortality, alone in Palestine. Moral causes and qualities exert influences far beyond their nativity, and ideas are transplanted and exported to meet the temporary requirements of the tastes or necessities of man; as we see exotic palms in the conservatories of Chatsworth, russet apples at Surinam, and oranges in Atchison. But there is no growth: nothing but change of location. The phenomena of politics exhibit the operations of the same law. . . .

The direct agency upon which all these conditions depend, and through which these forces operate, is food. Temperature, humidity, soil, sunlight, electricity, vital force, express themselves primarily in vegetable existence that furnishes the basis of that animal

life which yields sustenance to the human race. What a man, a community, a nation can do, think, suffer, imagine or achieve depends upon what it eats.

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The primary form of food is grass. Grass feeds the ox: the ox nourishes

man: man dies and goes to grass again; and so the tide of life, with everlasting repetition, in continuous circles, moves endlessly on and upward, and in more senses than one, all flesh is grass. But all flesh is not blugrass. If it were, the devil's occupation would be gone.

THE MEEK THAT INHERIT THE EARTH

AGNES CHASE

OF ALL PLANTS the grasses are the most important to man. All our bread-stuffs—corn, wheat, oats, rye, barley—and rice and sugarcane are grasses. Bamboos are grasses, and so are the Kentucky bluegrass and creeping bent of our lawns, the timothy and redtop of our meadows.

If such different-looking plants as bamboo, corn, and timothy are all grasses, what is it that characterizes a grass? It is the structure of the plant.

All grasses have stems with solid joints and two-ranked leaves, one at each joint. The leaves consist of two parts, the sheath, which fits around the stem like a split tube, and the blade, which commonly is long and narrow. No other plant family has just this structure. Clover and alfalfa, built on a very different plan, are not grasses. The seed heads of grasses are still more distinctive. The minute flowers are borne on tiny branchlets, often several crowded together, always two-ranked, like the leaves.

The grasses specialize in simplification; only rarely do they have non-essentials.

Being wind-pollinated, their flowers need no gay colors, no fragrance, no honey to attract insects. The flower consists of a single pistil with one ovule, two styles, each with a feathery stigma, and three (rarely one or six) stamens. Only three, or two, delicate little scales (lodicules) remain of the floral envelope, the calyx and corolla, of other flowers. These minute flowers are borne singly or two to many together in

spikelets, which are really little flowering branches. The hypothetical flower-bearing branchlet is never elongated, as shown in figure 3 for the sake of comparison. The palea is immediately above the lemma, and the flower immediately above the palea. The axis of the spikelet (rachilla) is jointed as is the culm of a grass, and the lemmas (specialized leaves reduced to a blade-like sheath) are two-ranked as are the leaves.

The flowers have to do with perpetuating the species. Most grasses flower every year. But some perennials, which spread by specialized underground stems (rhizomes or rootstocks), may cover extensive areas, especially in salt or brackish marshes, without flowering regularly; bamboos flower mostly at intervals of a few to many years.

The root, stem, and leaves constitute the vegetative part of the plant, and are concerned with the life of the individual plant.

In grasses the vegetative parts are more uniform and characteristic than in most other families. If one has the stem and leaves of a plant, he can decide readily whether or not it is a grass. The only plants that may reasonably be mistaken for grasses are the sedges—the culms are not jointed and are commonly three-sided, and the leaves are always three-ranked.

In grasses, specialization takes place mostly in the spikelet. By its vegetative characters a given plant is shown to be a grass, but it is the spikelets and their arrangement which indicate the kind