

## A Bad Name for a Good Plant

The Ancients Called it a "Wolf" but it Is Really a "Sheep."

By H. A. Bereman.

Growing in sandy places in many parts of the world is a plant bearing spikes of bluish-white flowers—an attractive plant that arrests the attention of the passerby. The flowers mass gorgeously when clustered thickly on fertile lands. It grows in the almost pure sand of the high dunes which skirt the eastern shores of Lake Michigan. This plant is known as *Lupinus perennis* and both name and habits afford an interesting example of how the real nature of vegetable forms is often misunderstood in the light of that "little learning" which Pope called a "dangerous thing."

The old Latins named this plant from the word "lupus," meaning a "wolf." In those days, when scientific agriculture was undreamed of, it was believed that wherever such plants grew they desolated the soil by devouring its elements of fertility. Hence this plant was to them a weed more noxious than those which merely compete with cultivated crops for light, moisture and sustenance.

In the present age of wide and exact research, science reveals the fact that the lupines belong to the botanical family leguminosae, one of the most interesting and agriculturally the most important group of plants known to man. To this family belong the clovers, peas, beans, vetch, alfalfa, and scores of less popular species, many of them wild things which possess no commercial value.

The economical value of the above forage products is well known, but the entire family of legumes has a peculiar faculty of placing them in the front rank of agencies which help to make this

world habitable. On the roots of these plants nodules appear—some almost microscopic, and some as large as a pea. These are colonies of bacteria parasites in form only, because they "work for nothing and board themselves." They possess the unique property of taking the free nitrogen of the air and thru the organic chemistry of their life processes they convert this gas into nitrates, an essential food for all plants.

These bacteria are microscopic plants propagating by dividing into two pieces, each half growing into a full sized bacterium. These "germs" exist naturally in many soils, often remaining dormant for years awaiting the arrival of their hospitable legume laboratory to start up in active business. Where they are deficient, legumes will not thrive and the land is said by old farmers to be "clover-sick." To correct this condition the soil must be inoculated with this species of bacteria. The simplest way is to scatter on the land a bushel to the acre of soil from an old clover field.

As acid is antiseptic or deadly to bacterial life, the legumes do not thrive in what is called "sour soils." The acidity may be neutralized by applying ground limestone (calcium) to the land, after which inoculation will be necessary to start bacterial nodules at their work of absorbing atmospheric nitrogen.

The nitrates thus produced by the friendly bacteria is a soluble form of the chemical element nitrogen, in which form it is "fixed" or more or less permanent as a solid, a portion being appropriated by the host plant for its