

on this plot to germinations from later seed crops.

Protected as they were against both fire and unburned hogs the count of seedlings in the quarter-acre under fence showed a 90% increase in five years, which in this case also was no doubt due very largely to greater ease in distinguishing them as they grew larger. In the number of seedlings, then, the plots scarcely differed. A tremendous difference, however, was to be seen in the height and general vigor of the seedlings on the burned and unburned plots. The secret of the young longleaf pine seedlings' ability to resist fire lies in the manner in which the needles, or "straw" are borne along the entire stem, right down to the ground. In five or six years the average longleaf pine seedling attains a height of scarcely more than eight or ten inches and the whole of this stem is protected by a thick mat of needles. When a fire runs over the ground in the neighborhood of the seedling it may singe off all the needles, without injuring the living tissues of the stem or the fuzzy bud which carries on the height growth. A few weeks after the fire a new set of needles is put out, and whatever energy the seedling retains after this effort goes into increased height ~~growth~~ and diameter ~~growth~~. For a year or two after 1915 the height of the seedlings on the burned and unburned plots appeared about the same. Gradually, however, the stunting effect of the fires became apparent, and at the end of five years only