

Stewardship Notes

Indiana Division of Forestry



Livestock Grazing in Woodlands

Historically, most of Indiana's woodlands were grazed by livestock. Pioneers and subsistence farmers needed every acre of cleared ground to raise foodstuffs and other crops. Although woodlands did not provide good pasture, livestock were left to forage in the woods because it was considered "waste ground." The livestock survived, but their productivity was lacking due to the poor forage conditions.

Today, woodlands are no longer considered "waste ground." The forest products industry earns \$4 billion per year in Indiana. The quality of hardwood timber grown in Indiana is world renowned. One important key to forest quality and productivity is excluding livestock from the woods. If you currently have livestock grazing your woodland, you should seriously consider removing them for the following reasons:

- There is very little food value for livestock in a forest. It takes 15 to 30 acres of pastured woodland to equal the food value in just one acre of improved pastureland. Livestock are also very destructive to tree seedlings. By trampling, uprooting, and feeding on the seedlings, livestock effectively destroy future timber trees. Livestock damage forests by compacting the soil. The protective humus layer naturally found on the forest floor is destroyed, which results in excessive runoff when it rains. Accelerated soil erosion follows.
- The majority of the trees' feeder roots are in the upper few inches of the soil; an area heavily disturbed and compacted by livestock. This results in a tree's inability to absorb needed nutrients and water. Additionally, the roots are often damaged, and these injuries serve as a source of entry for decay organisms. Once infected with these organisms, the heartwood (the most valuable part of the hardwood tree) will be stained, decayed and then destroyed. The damage to the root system will result in decline of the tree's growth rate and eventual crown dieback. The tree becomes less vigorous and more susceptible to disease and insect problems, and will eventually die.
- Livestock often scrape and peel the bark off at the base of the tree. These injuries are points of entry for decay organisms that further reduce the quality of the tree. The value of the entire tree declines because most of the timber's value is in the butt log. Because of the likelihood of staining or decay in the butt logs, timber buyers are reluctant to buy timber from grazed woodlots. They will pay substantially less for timber in grazed woodlots than from non-grazed forests.

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- Grazing also destroys important food and nesting habitat for many species of wildlife. A non-grazed forest is much more diverse and can produce up to five times more wildlife by providing better habitat.
- Many species of trees, shrubs, and herbaceous plants are toxic and may be deadly to livestock. Native wildlife evolved defenses against these toxins, but domestic livestock can be killed by eating many common woodland plants.
- Many specialty forest products such as mushrooms, ginseng, raspberries, blackberries, and wildflowers are destroyed when a forest is grazed. It may take decades for the populations of some of these species to recover once grazing is stopped. Once grazing is permanently stopped, the woodland begins the slow recovery process. It may take decades for the forest to fully recover, but the woodland will eventually be able to produce high quality hardwood timber with none of the decay and disease problems associated with livestock grazing.