

RECLAMATION WITH TREES IN ILLINOIS

Paper presented at the symposium,
Trees for Reclamation in the Eastern U.S.,
Lexington, Kentucky, October 27-29, 1980

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Thru private initiative, Illinois citizens historically have invented and conducted large-scale tree planting programs, starting with hedgerow fences and farmstead windbreaks and continuing with surface mine reclamation and farm woodlands. With invaluable help from public and private scientific personnel, the old and new programs hold promise of enlargement and increased success.

When talking about planting trees, whether on surface coal mines or on farms, we think Illinois has an interesting record. Historically, tens of millions of hardy osage orange seedlings were produced and planted as hedgerows for fences by private nurseries and pioneer farmers before and after the Civil War. Our pioneers planted them to confine cattle, to protect crops, to define property, and to civilize the prairie winds. Appreciated and known as hedgerows for 100 years by fencepost cutters and by sportsmen, they provided an enormous habitat for wildlife, something not originally contemplated. Unfortunately, the popularity of osage orange hedges dwindled with the coming of the bulldozer, single - crop grain farming, and intensive agriculture. Many of our citizens and foresters still mourn the passing of this excellent wildlife habitat and the durable osage orange fencepost. It is almost the only forest crop, except Christmas trees, which has been planted and grown commonly in Illinois and sold for a profit. These hedge posts have lasted in the soil for 60 years and more without failure.

Historically, Illinois experienced other enthusiastic planting programs. One promoted a surprising number of catalpa plantations along railroads for tie production. So far as is known, none were ever harvested. Other programs were moderately successful in establishing farmstead windbreaks and a few black walnut plantations.

In modern times since the institution of State tree nurseries, public foresters, and organized conservation agencies beginning in the 1930's, Illinois strip miners and foresters have planted approximately 50 million tree seedlings. To all classes of tree planters in Illinois, the State has distributed an estimated 300 million trees since 1935. During the first half of this modern period, the surface mines generally preferred to plant conifers. Since 1955, the hardwoods have gained in popularity with the mines and with foresters advising them. The popularity of various species has changed radically over the years and is changing even now in response to improvement in mine spoil acidity (now outlawed by reclamation laws), in response to failures from insects and diseases, in response to ice storms and extreme climatic factors, and in response to a myriad of other factors foresters learned by bitter experience.

Illinois tries to learn from experience; but, unlike a farmer or an agronomist experimenting with an annual grain crop and confronted only by the potential disaster of a single year, a forester's tree crop must withstand every catastrophe common to half a century. The forester cannot plow under a 20-year-old mistake as easily as an agronomist might plow under an insect-damaged corn or alfalfa crop. The tree species he selects must be ready to withstand the worst ice storm, the worst drought, the worst insects, the worst diseases likely to appear on the

horizon in 50 years. The gamble is far greater than with annual corn or soybeans. Many foresters, it seems to me, have not weighed these odds sufficiently in choosing species or combination of species and spacings to use. Possibly because of these increased risks, foresters often choose to plant legumes and grasses on surface mines instead of trees. The chance of quicker, greater and more certain profitability is often the overwhelming factor. Until timber prices rise drastically, it will be a stubborn factor to dislodge or ignore.

In Illinois, we are faced by extremes in temperature, rainfall, wind, drought, and other climatic factors affecting tree survival, growth, and damage. But among our serious risk factors in tree plantations, the principal ones seem to be insects and diseases. Furthermore, we are not well equipped to handle these problems, since forest entomologists and pathologists are not generally present on most forestry staffs and are not readily available for field advice to forest owners. In addition, the treatment of these problems often is not economically feasible. As a result, we fre-

quently decline to plant certain species because of insects. At this time, we are inclined to favor the planting of hardwood native species.

The good news, however, is that we have many fine scientists in our land-grant colleges, our Federal and State research centers, and in our field forces. If anything can be done, it will be known to our scientists and the information will be available.

Our state is appreciative of the research which has been and is being done on surface mines in the fields of soil compaction, natural invasion of native species, soil reconstruction, and especially studies of the benefits of introduced soil mycorrhizal fungi for improved reforestation on adverse sites.

Surface coal mining is a very significant part of the economic climate in Illinois. Our mine reclamation with pastures, timber, and even with row crops has been quite successful for several decades. We hope you will have an opportunity to visit some of this work.