

Poplars Most of those consulted agree that poplars (probably cottonwoods and almost certainly "balsam popple" and other aspens) would take hold in the upper part of the willow belt and for some distance up the bank, perhaps everywhere on the bank if properly handled. P. S. Lovejoy, however, doubts that many poplars will take hold.

Planting Fall planting is recommended by Lehotsky, though others prefer
Willows and spring planting. Even early summer plantings often succeed.

Poplars Slips are usable, cut obliquely at the bottom. Buds should be present. If poles larger than whips are used, it is well to have a pair of stubs of branches near the lower cut end, as the buds will start in the axils of the stubs. Willows should be stuck into the moist sand. J. Clark Salyer, who has given the problem of willow planting considerable attention should be available to suggest the proper species of willow for the particular site. He will return to Michigan about September 1.

Black There is a sharp disagreement as to black locusts. Mr. Koloman
Locust Lehotsky, of the School of Forestry and Conservation, who has made a long study of this tree in Europe and America, regards it as the "best bet", almost sure to succeed. Lovejoy reports that attempted plantings on sand soil near Roscommon and elsewhere in northern Michigan failed, as the seedlings grew little and gradually failed to take hold after several years. Lovejoy also believes the locusts winter-kill. ~~Thos~~ this statement Lehotsky replies that the winter killing will be beneficial, causing spreading out of the plants. He also ~~claims~~ that the locust borer and the cutting off of the locusts will induce spreading.

The black locust occurs even as large trees as far north as Cheboygan County, but nearer the coast and perhaps on heavier soil. In several places in

west-central Michigan the black locust is doing very well and is successfully checking erosion on highway grades. For instance, a fine growth was observed on July 14 on the steep slope of a road grade on the north bank of the Manistee River, at High Bridge.

Suggestions Mr. Lehotsky makes a number of suggestions for plantings of
on Locust black locust: (1) It should be figured on as a temporary cover
 on such poor soil, as it rapidly exhausts the soil of nutrient
materials other than nitrogen which it manufactures, and tends to die out in time.
Within 10 or 15 years, an underplanting of other trees, as poplars, should be
made. These will likely succeed on account of the shade and nitrogen furnished
by the black locusts. There is no reason to expect that the locust would spread
to do any damage. Fall planting of seedlings is advised. This can be done
anytime after the leaves fall. Fall planting gives the seedlings the benefit
of the spring thaw, after which they can easily withstand a prolonged draught.
Iron planting dibbles are recommended for use in opening a hole in the sandy
soil for planting, the whole to be closed by stamping. Root suckers might
succeed, but seedlings are to be preferred. Locusts, or any other trees,
should not be planted in straight rows up and down the slope. Any tree in one
row should be planted between two trees in the next row.

Use of Lovejoy believes some of the native plants of the sand plain region
Native Sod gives best promise of success. He makes the definite suggestion
 that strips of the native sand turf be laid along the sand banks,
supported by stakes where necessary. The intervening areas could be in part
brushed over, the idea being that the turf would then spread. He suggests the
use of tractor with large shallow plow, the turf to be carried by truck to
the top of the bank and slid down to the desired level by a small lumber chute.

Brushing A number of suggestions for brushing the slopes were obtained. One
Slopes of the best seems to be to lay the brush ~~in~~ parallel with the stream
 in a layer over the slope, holding this down with poles laid down
the slope. Where will^{ow} patches are available along the stream, good mats could be
made from that material. These mats could easily be made on the willow flats
by laying the brush across two or three willow poles, then putting other poles
across the top and binding the pairs together. These mats could be floated down
stream (using a boom) and pulled up the banks from above. It is recommended that
a few sections of the banks be covered from top to bottom in this way.

In brushing the slopes, enough heavy brush should be provided to hold together
long enough for the vegetation to get ahold. Stakes to hold the brush or brush
mats may be made of poplar, in the expectation that a proportion of these will grow.

Lovejoy has suggested two other ideas for brushing. One is to use whole oak
trees, butts down bank, suspended from above by wire after the lower side has been
chopped off. The other is to suspend poles parallel with the stream in the same
way.

Another method of brushing widely used in Europe, Mr. ^{Lehotsky} ~~Lovejoy~~ reports, is to
drive in stakes in alternating rows and weaving willow branches around these.

Spruce and Spruce, white pine and scotch pine have all been used in somewhat
Pine similar situations near Saugatuck, Mr. Lehotsky reports, yet in
 7 years they have grown only 3 or 4 feet high, whereas black locusts
nearby had grown to 20 feet in height in the same period.

Other Plants A considerable number of other suggestions of plants fit for trial
 were obtained. Lehotsky thinks sand cherries might do well, and
that seeds could easily be gotten in the sand region in the fall. Lovejoy thinks
well of the June-berry or shad brush, and of oak. He believes that seedlings of
these species, cut lengthwise so as to maintain part of the crown and one root,

would stand a good chance of growing if planted deep. Lovejoy says that the evergreens become dormant in the Lake County region in August and may therefore be transplanted soon.

A FEW REFERENCES OF POSSIBLE VALUE

These have not all been consulted. Copies of the bulletins referred to have been written for.

Gerhardt, Paul

Handbuch des deutschen Dienenbanes. 1910. (A large book showing methods of erosion control practiced in Europe).

Erosion Control U. S. Dept. Agri. Farmers' Bull. No. 1669.

Black Locust (*Robinia pseudacia*). U. S. Dept. Agri. Forest Circ. No. 64 (revised). 1909. 4 pp.

Black Locust U. S. Dept. Agri. Farmers' Bull. 1628. 13 pp.

Growing Locust in Hungary. Forest Quart. Vol. 4. No. 2, pp. 106-111.

Sanford, F. H.

Progress in Blow Sand Control. Mich. Agri. Exp. Sta. Quart. Bull., No. 1, 1919, pp. 130-131.

Etc.

To facilitate checking of the trial plantings and constructions, it would be helpful to divide any large sand bank into vertical strips say 50 or 75 feet wide, treating each strip differently.