

Commission Meeting

an order for smaller mesh sizes in
d the delegation split for and
the system the state uses in col-
spawn for the operation of lake
tchery operations. A further hear-
the commercial fishing controversy
held at the commission meeting in
nty on Oct. 7.

commission gave its formal ap-
to an order asked by Wisconsin
companies that fishing be pro-
500 feet above and below power
s protection of the properties
damage during the present emer-
nd as a protection of fish life. The
was asked as part of the national
plan.

commission took no action on the
that the commission appropriate
or the restoration of the first su-
court building in Lafayette county.
proposal was held not within the
e of the commission.

proposal for the construction of a
disposal plant on the grounds of
Croix Falls fish hatchery property
the city was indefinitely postponed.

proposal of the Dairymen's Country
purchase or trade two islands in
Cooked Lake, Vilas county, was laid
r future consideration.

action was taken on a request to
rovisions for a museum at the Trout
restry headquarters.

commission voted to permit state
rs to attend the meeting of the As-
on of State Foresters to be held in
ia, on October 13 to 15.

commission voted approval of game
s ranging in size from 140 to 2,000
in Racine, Iron, Marinette and
sha counties.

uggestion for the building of a new
at the golf course at Peninsula
Park was laid over pending a com-
n inspection.

ada is using conscientious objectors
complete the road around Lake Superior.

o bears with a taste for mutton killed
deep south of Superior and efforts
being made to eliminate them.

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Trenk



By W. T. CALHOUN
Superintendent Education Division
Wisconsin Conservation Department

This section of the bulletin has been reserved for information designed to be primarily of interest to teachers. Any suggestions to make it more helpful in teaching conservation will be appreciated and will receive careful consideration. Articles appearing here are reviewed and approved by a committee consisting of representatives of the Department of Public Instruction and the Wisconsin Conservation Department.

Note: This is the second of a series of nine study helps on important phases of soil conservation. The content is prepared by staff members of the College of Agriculture of the University of Wisconsin in cooperation with the Department of Public Instruction. It is believed teachers will find this series particularly helpful in teaching the underlying principles of soil conservation. W. T. CALHOUN.

Farm Acres Sheltered From the Winds

By F. B. TRENK
Extension Forester

It is nearly one hundred years since the first pine trees were cut along Pine river—the Pine river that flows through central Waushara county. All of the old pines have long since been cut, even a second generation of pines has gone to the mills, and so few are left that today one might wonder how the river got its name. But on a certain farm near Pine river today you can find over 60,000 pine trees, every one planted by a farmer and his son, and it all started because of one very windy April day.

Albert Frater, the tree-planting champion of the Pine River valley, had just one more patch of oak trees to clear off to make his oatfield square. He liked square fields because, as he said, it was easier to handle his farm machinery, especially when he later planted row crops such as corn. Besides, this patch of oak trees would give him enough wood for cooking and for heating his home for a whole year.

There was not much snow that winter and Albert Frater could cut trees the way he believed all trees should be cut—with very low stumps. He cut them even lower than usual, for he intended to harrow and seed grain directly among the stumps. He knew that low stumps from oak trees

would soon rot. By mid-April the oak wood and brush from this little spot of ground had been taken off. The ground was dragged and the grain crop seeded.

"Those stumps," Mr. Frater will tell you today, "hadn't more than an inch of wood above the ground. It was easy to harrow and seed over them."

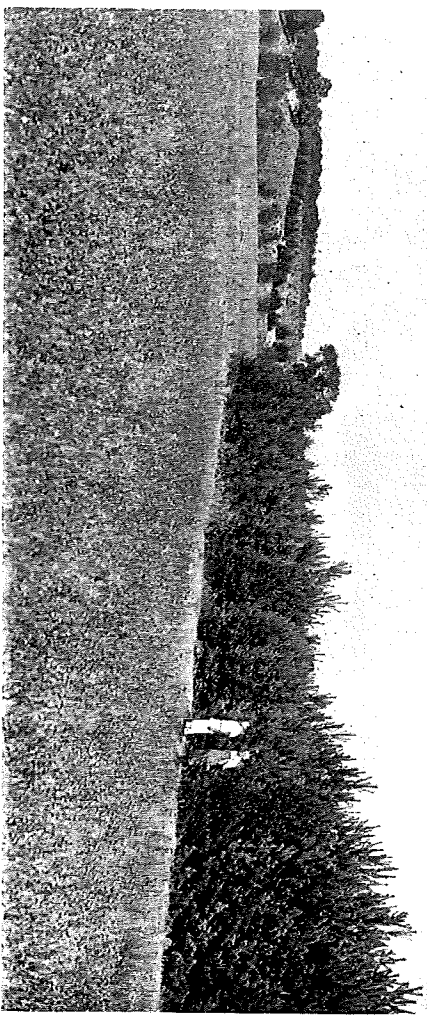
The country that the Pine river drains is made up of light and sandy soil, which never gets muddy because the light soil seems almost to drink the rain and snow waters that fall on it. Because it is sandy and takes up water easily, it has a weakness—its particles are loose and can therefore be blown easily by the wind.

April days are often windy days along the Pine river. One April day in the late twenties the wind was little short of a gale. Clouds of sand were swept across fields and formed drifts along fence lines and hedgerows, like the dry, crisp snows of winter.

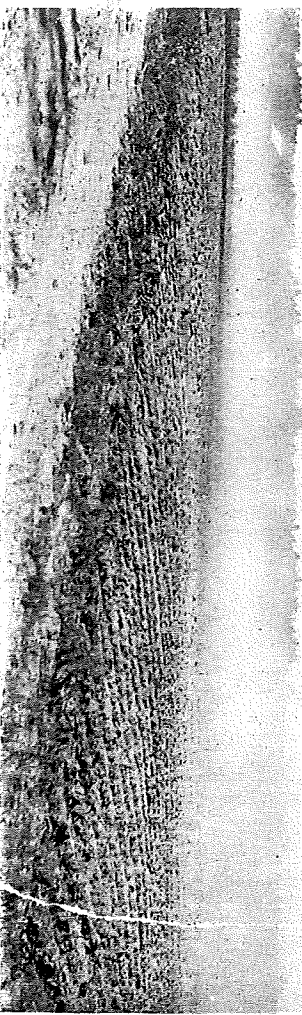
How much soil is picked up and moved to distant places on a windy day? Few people know because the same hills and fields and valleys remain after every wind-storm. No one had ever thought of a gauge or measuring device. All unknowing, Albert Frater had gauges in his new oat-

field, many of them. The day after that steady blow, he discovered them—the tree stumps. Had he not cut them with a bare inch of wood left above the ground line? Could some strange, underground giant have pushed them upward to block his reaper when the oats should be ripe? What oats? There was no sign of them now! Had the same strange force that pushed

up the stumps also driven away the newly-seeded oats as mysteriously? No, to the amazed eyes of Albert Frater it was not so mysterious. The force that took the soil and seed had been above the ground, not below it. The wind had come, and Mr. Frater will tell you that where before stumps had shown only an inch above the ground, after the storm some had as



Albert Frater and son and one of their field shelterbelts.



much as ten inches exposed and a network of roots could be traced out. There would be no oat crop here that year and, for once, Albert Frater had measured the "take" of a violent windstorm.

Somewhat to the west was a strip of trees that had been left when all of the other trees had been cut. It was a natural shelterbelt that kept the force of the wind from the surface soil for a distance of over ten times the height of the trees. Here, the grain seeding was saved.

Albert Frater had heard of planted shelterbelts—those three and four row strips of pine trees set 40 to 80 rods apart and arranged to give protection to field crops. He knew that some day he might nail narrow strips of wood on those trees and to the wood he could staple fence wires, thereby having a permanent fence and yet doing no injury to the trees.

When son Edgar, a rural school youth, first signed up for Four-H Club work, he and his father quickly determined the project he would follow. It would be forestry and all of it was to center around tree planting for shelterbelts on the field borders that Albert Frater had determined would offer the best means of some day protecting his fields from the winds.

Ten years of planting have transformed the Frater farm into a succession of relatively long, narrow fields, permanently protected on the sides by tree belts, now ranging from four to twenty feet in height and growing taller every year. The Fraters, father and son, have planted 40,000 trees in belts 560 rods long—nearly two miles of tree belts. But that is not all! Some sloping lands that dried out quickly and that were hard to cultivate have been planted to solid blocks of trees that will some day yield fuelwood or fence posts, or may be sold for pulpwood to the mills along the Wisconsin river not so many miles away. On these slope lands now grow nearly 20,000 planted pines.

Albert and Edgar Frater have led the way in tree planting along the Pine river, but they are not alone. Hundreds of their neighbors, having seen the same wind-storms causing the same losses to soils and crops, now make each spring a tree-planting time, and they lay out their fields parallel to the tree belts they plant. Each of their fields is divided into strips—a strip of grain or a strip of meadow alternating with a strip of potatoes or a strip of corn. The wind, which oftentimes may not be entirely stilled by the trees, is further slowed down by the thick growing grasses

row ribbons of clean, tilled crops, under which the bare soil suffers little loss because the wind has been robbed of its sweep and velocity.

1. From your study of the story, you will observe that a costly mistake was made in the early management of the farm. Explain.

2. Explain how Albert Frater came to measure the "take" of a violent windstorm. Why is this now considered important?

3. How was the farm later transformed? In the event that you owned a farm similar to this one on which losses were occurring, from what sources might you obtain information to assist you in preventive measures? County _____ National State _____

4. Pine trees are now generally used for shelterbelts. Why are these used, and what is the state conservation department doing to assist in their provision?

5. Could you lay out a representation of a sloping farm on your school sand table and show the following:
(a) How the farm might be staked and cropped.
(b) Where shelterbelts might be placed advantageously.

6. Can you give a good explanation of the arrangement used in response to Question 6?

7. Why should people other than Albert and Edgar Frater be interested in what happens on the Frater farm?

Note: For your language work, it would be interesting and helpful to write to the University of Wisconsin for Circular 280, Shelterbelts for Windblown Soils and Crops, and Circular 317—Strip Cropping to Control Erosion. Address your request to the Bulletin Mail Office, College of Agriculture, Madison, Wisconsin. These will help you in your response to Questions 6 and 7.

Wildlife Habits

Exceptions to the general rule of wildlife behavior are always of interest, although they may be unimportant if the standpoint of outdoor management is bird or animal, under unusually favorable circumstances, may achieve an unbelievable conquest and yet the race of the victim not affected by an accident to one of its members.

A hungry eagle finds a deer helpless in a snowdrift and kills it. But eagles few deer.

A heron may trap trout in the shallows but trout may be but a small part of