

of the sap on the sides of the tree most exposed to the sun. Very often there are warm days during the month of March and the sun shining on the trunk of the tree thaws the sap. A severe frost at night freezes it up again and this may occur several times. This alternate thawing and freezing either separates the bark and the cambium from the trunk of the tree or injures the wood tissues so much that growth is prevented and these parts die. If the tree is badly sunscalded it is so weakened that it dies before the wound can heal over, or very frequently the same season.

Prevention. This injury may be prevented to a large extent by only planting trees which are headed low, thus exposing but a short trunk to the rays of the sun; also by inclining the young trees somewhat to the south when planting, thus preventing the sun's rays striking the trunk except for a short time. Where the trees have been planted and are liable to become sunscalded, the trunks may be protected by using a veneer of wood which encircles the trees, thus preventing the rays of the sun from striking the trunk. It should be loose so that there will be an air space between it and the tree. The ends of it can be fastened together by means of wire or twine. Another protector is made of finely meshed galvanized iron netting which is more permanent than the wooden protector. In outlying districts where these protectors cannot be purchased, a good substitute may be made out of birch bark. Building paper tied around the tree is also useful. All of these protectors are effective in preventing the ravages of mice. Cornstalks, boards, and many other things may

be used to protect the tree from sunscald. Nothing, however, that will be likely to harbor mice should be used. These protectors should be put on in the autumn. When a tree has been injured by sunscald the injured parts should be carefully cleaned away and the wound covered with grafting wax or paint. If the tree is young and likely to suffer, it should be protected in the manner described above.

The tree protectors used at the Central Experimental Farm are made of elm. They are of two sizes, one kind being thirty inches long and twelve inches wide, and the other twenty inches long and eleven inches wide, and have proved very satisfactory in preventing sunscald and injury from mice. They were procured in Minnesota and Kansas and are sold at \$6.00 per thousand, although I have been informed they can be obtained for less.

There is another form of sunscald which appears to be a summer scald. When the weather is very hot in summer large limbs, which are exposed, are often scalded apparently by the fierce heat. This probably occurs most frequently when there is not a good circulation of sap in the tree and when the tree is making very little growth. It also often occurs after too severe pruning. Limbs which have been protected by the foliage from other limbs are suddenly laid bare after heavy pruning. The bark on these limbs is not as tough as that of limbs which have always been exposed to the weather and it cannot withstand the heat of the sun and sunscald occurs. Hence, trees should be kept vigorous and pruning be done very carefully.