

foresee the effects and influence of such removals.

The time of pruning, whether during the summer or during winter, will depend upon the object to be attained; a brief consideration of plant growth will assist us in determining this question.

When a seed is deposited in a suitable germinating medium, its first effort is to send a root downwards in the earth, and then push a shoot upwards in the air. The seed contains within itself all the nutriment necessary for this process, but as soon as the young plant is so far formed, its mode of existence is changed, and it becomes dependent upon the soil and atmosphere for future support.

The elementary substances absorbed by the roots undergo decomposition through the influence of the leaves, and the material is thus prepared for further root growing and extension. The roots have no inherent power of extension, but are dependent upon the health and action of the foliage; and although in germinations the roots are first formed, their growth is due to the action of the foliage of the plant that produced the seed from which they emitted. It is, therefore, apparent that the increase in size of the plant, the quality and quantity of its secretions, and the extension of its roots are all dependent upon the healthy action of the leaves.

When it is considered how essential the foliage is to the healthy development of the plant, we may well pause before infringing upon the reciprocal active nature has established between the roots and branches, for it is evident that every branch or leaf removed has an effect either for good or evil upon the plant. The correlative action between the leaves and roots being so intimately connected it follows that any hinderance of leaf growth during the period of active vegetation must retard root development. Hence it is an axiom, now becoming recognized, that summer pruning weakens growth, while winter pruning produces a contrary effect.

Summer pruning can be useful where wood-growth is to be checked, and it will be repressed in proportion to the severity of the removal of the foliage. Fruit trees, when planted in a generous soil, frequently attain a luxuriance incompatible with a fruitful habit, and their flowering may be somewhat hastened by judicious pruning or pinching, so as to retard wood-growth; but care must be exercised, and much observation and experience are requisite before the object can be safely attained.

Winter pruning invigorates wood-growth. When a portion of the branches of a tree is removed after the fall of the leaves, the balance of growth is destroyed and the roots have the preponderance; the remaining buds will now shoot forth with increased vigor—an important consideration with trees or vines that have become weakened from overbearing or any other cause, importing new vigor to weak and sickly plants.

The time for winter pruning may be regulated by the condition of the plant; if pruned immediately after the leaves fall or ripen, the shoots will be stronger the succeeding season than they would be if the operation had been delayed until spring. This arises from the fact that during winter the plant still continues to absorb food by its roots, which

is distributed over the branches; and as the principal flow of saps is always directed to extreme points of shoots, the highest buds are most fully developed. If, therefore, pruning is delayed till spring, this accumulation is cut and thrown away, and to that extent the plant is weakened. Early winter pruning is eminently advantageous to native grapes. As the retained buds become charged with sap during winter, they start and advance rapidly—a matter of much moment where the summers are rather short for ripening the fruit and wood of these plants. There is a tendency in many varieties of trees to form strong central growth at the expense of the side branches, more especially while the plants are young. Pruning these strong shoots in winter only increases the evil, unless summer pruning is attended to by pinching out the ends of every shoot before it gains sufficient headway to injure the growth of the lower branches. Strong growth should be pruned in summer and weak ones in winter.

When the size of a tree is the only object sought, summer pruning should not be practiced. But it may be said that pruning of any kind is a negative operation, and probably it is within the limits of possibility that trees may be trained to any form and maintained in a fruitful condition without any instrumental pruning whatever, unless to remedy disease or casualties. It is much easier, for instance, to rub off a bud in May than it is to cut out a branch in December; and if judicious system of disbudding and pinching was strictly followed there would be no occasion for winter pruning, or, were it possible to place a tree in such a soil, and under such conditions that it would only make a moderate growth of well-matured wood, little if any pruning would be required. But as all of these conditions are difficult to realize in happy combination, we have to resort to pruning, and a knowledge of the principles involved will materially assist the operator.

Before the next issue of this valuable paper, the Utah State Board of Horticulture will hold its meeting and many points on fruit raising will be introduced and discussed, and every farmer and fruit-grower in Utah should feel interested in same and contribute to it some of their experience in fruit raising and other things connected with same, so that when the time comes for selling our fruit, we can demand our prices for same and have good markets, instead of asking the merchant how much he will give.

In regard to Mr. Laurenson's statement concerning my quotations of prices of blue vitrol, he can go to Z. C. M. I., where he bought his and learn that he can get all he wants at the rate of seven dollars per hundred pounds.

THOS. E. VISSING.

#### MAKE A STATE PARK.

*Mr. President and Members of the Society:*

We are asking Congress to appropriate and set aside all of that country at the headwaters of the four rivers known as the Provo, the Bear, the Weber and the Duchesne, as a park. This park should be fifty miles in length by at least thirty in width, and the center should be at the northwest corner

monument of the Indian reservation, which is situated on Bald Mountain.

This we ask Congress to do so that the timber could be protected—which timber is fast being destroyed by timber men being employed from time to time in cutting ties and other timber. This timber must be preserved so as to protect the snows that fall so deep in the winter time and which afford us water for irrigation, without which we will go short for our farm products.

Unless something is speedily done to arrest the wanton destruction of that timber country, we will suffer from drouth such as we have never seen before. The tie-men destroy more than any other class of lumber men. I have seen trees sixty feet high cut down, and perhaps but one tie cut off; the rest is left to rot, or even worse, to be burned. If that tree were the only one cut it might not matter so much, but in making room to get at the one wanted they frequently have to cut five or six smaller ones, all of which will dry and help to swell the opportunity for fires.

The tie-man will ask what he shall do for his ties. Him I would ask what will you do when the timber at the headwaters of the rivers are gone? You would go to the Sierra Nevadas or some other place; why not go there now?

It is with this as with everything in life; the most good to the greatest number of people should be observed. Ask any of the old inhabitants and they will tell you that before the timber was removed in the canyons near this city it was much cooler in the city than it is now in the summer, and being cool in the canyon you did not have to go far up to camp to get frost; now you would have to go nearly to the top.

As there have been few of you up on Bald Mountain or any of the other peaks that tower away above timber line, I would say come with me and let us climb Bald, which is about twelve thousand feet above the level of the sea. From here you can look to the west and see Deep Creek mountains, south and you can see the White mountains, southwest is Mount Nebo with many other mountains. In looking east you gaze on Reed's Peak, 14,000 feet above the level of the sea, and supposed to be the tallest mountain in Utah. Looking all around you can see mountains until the eye will tire. From here you can see the smoke from the smelters of Park City and with a field glass you can also see Evanston. You look down upon great forests that are so green that in the distance they look black. The great question with us is: Shall these grand old forests be destroyed or shall they be incorporated in the State Park? Shall they remain in their native purity and protect the everlasting snows that furnish us with the pure waters which are essential to man and all things else created, or shall we sit down and silently look on and see the destruction that is annually occurring.

I can see in each and every man's face, "No! we will with our humble efforts protest and lend our aid to increase these forests rather than see them diminish. With us it is, 'Woodman, spare that forest!'" Again, let us look from this mountain, the mother of four rivers whose heads are within five miles of each other. You can stand here and count sixty lakes whose waters are as clear as crystal—a chemist has no