

leave idle. We have not reached that point but we still cannot afford for our land to be non-productive. The planning and planting of super highway right-of-ways should also include vista management. It would be terrible to screen off a beautiful view with a solid wall of pine trees.

There are environmental benefits to be gained along the highways, also. Efforts have been made in South Carolina and other states to develop and promote natural areas and the growth of wild flowers. This is a beautiful way to add diversity to the view and to utilize the land. Although these areas attract wildlife to the highways and its dangers, these areas provide habitat that is being rapidly lost.

A zoologist, Dr. Jerome A. Jackson of Mississippi State University has proposed that super highways can be used to enlarge the range of endangered species. He cites that most wildlife species that have become extinct in the last few hundred years have been island species. As habitat changes occurred, the animals that could not adapt had to flee. He proposes that interstates can be used as connecting links between similar habitat so that endangered species can enlarge their range. The endangered redcockaded woodpecker is one such animal that might use the highways in this manner. They have shown a preference for a road or meadow habitat. They also prefer old growth, red-heart pines that can be found along the rights-of-way.

I have been dealing with the positive aspects of tree planting, but there are factors that should make us cautious in our efforts to promote tree-planting along our super highways.

A scarred tree alongside a road seems so insignificant, especially when you see as many damaged trees in housing developments as I do. But, if we will think back to the night at 2:00 in

the morning when the driver left the road either because he fell asleep or was drinking, it's not a pretty thought to imagine the automobile hitting the tree at 80 mph. It's a safe bet that the driver was killed or seriously injured.

The safety of the drivers using our super highways is, of course, a primary consideration in the design and maintenance of the highways. The American Association of State Highway and Transportation Officials in a booklet entitled *Highway Design and Operation* points up the need for wide, clear shoulders in a section entitled "The Forgiving Roadside."

The section discusses shoulder width as it applies to the recovery rate for errant vehicles. It points out that at operating speeds of less than 70 mph and with relatively level shoulders (less than 10% slope), 80% of those vehicles leaving the road out of control will recover safety when the shoulder width is 30 feet. When the shoulder width is reduced to 20 feet, only 65% of the vehicles recover safely. When shoulder width is 40 feet, 87% of the vehicles leaving the road will recover. These figures can not be used as flat standards because other factors are involved; slope, curve, distance to cut or fill and the angle of cut or fill, but the figures do give us reason to consider that the 10 extra feet of shoulder width from 30-40' is a small amount for 7% increase in vehicle recovery.

Gentlemen, as in all aspects of life, we make our decisions based on all the facts we have. It is our purpose to grow more and healthier trees, for all the combined benefits they produce. But we must be aware of the physical and engineering limitations on planting trees in special areas.

*South Carolina Commission of Forestry
Columbia, South Carolina*

ABSTRACT

Baumgardt, J.P. 1977. **Shrubs that stay small.** *Grounds Maintenance* 12(2): 54, 57.

Fortunately, needle evergreen, broadleaf evergreen, and deciduous shrubs are all available to us today in forms that are of restricted dimension at maturity. You may want to consider these low-growing shrubs for your grounds in order to improve landscape design and to reduce maintenance.