

Mountain Home Air Force Base
 Windbreak Installation and Demonstration
 1996 Progress
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The Mountain Home Air Force Base and the Aberdeen Plant Materials Center have worked cooperatively since 1990 testing woody plant material for use in windbreaks. Based upon the cooperative work and the technical expertise from the Plant Materials Center, the Air Force requested assistance with the planning and installation of windbreaks at the Air Force Base. A reimbursable, cooperative agreement was developed between the Air Force and the Plant Materials Center in 1995 to install approximately 53,880 running feet of windbreak over a 4 year period, beginning in 1996.

In early December, 1995 site layout and planning began for the windbreaks to be installed in 1996. Three separate sites were planned; the Main Gate, Hospital, and Shoppette which are shown on Figure 1. The Air Force prepared the sites by removing rock, sagebrush, and disking.

The Plant Materials Center developed alternative planting plans and the Air Force chose to have installed 5 row windbreaks with the following species listed in order from the windward to the lee-ward side: Siberian peashrub, Rocky Mountain Juniper, Robust poplar, Austrian pine and 'Shuberts' chokecherry. They also chose to have the Plant Materials Center install weed barrier to help conserve moisture and control weeds. The Air Force contracted with a irrigation company to have drip irrigation installed.

On April 22, 1996 planting of the windbreaks and installation of weed barrier began. 15,380 running feet of windbreak was completely installed by April 25 and the drip system was operational within several days after planting. On May 22, I inspected the planting and the Robust poplar, Rocky Mountain juniper and Austrian pine were healthy and vigorous. The Siberian peashrub and 'Shuberts' chokecherry were just beginning to leaf out. The cool, wet spring was excellent weather for the small trees and shrubs to become established.

In late August, the Air Force began to notice girdling damage, especially on the Robust poplar. They began installing tree guards to protect the trees from what they thought was damage caused by rabbits. They also spread poison grain to attempt to control mice and voles.

On September 19, 1996 the windbreaks were inspected to determine survival and it appeared that the majority of damage was being caused by mice and voles. The Air Force then began an intensive program of spreading poison grain to reduce the rodent population. On December 11, 1996 the windbreaks were again inspected. The following table summarizes survival rates for each species at each site based upon the inspection on December 11, and the numbers in () are from the September 19, inspection:

Site	Siberian Peashrub	Rocky Mtn. Juniper	Robust Poplar	Austrian Pine	Shuberts Chokecherry
Main Gate	73 (73)	98 (99)	63 (63)	96 (97)	81 (81)
Hospital	71 (71)	95 (100)	11 (11)	71 (100)	60 (67)
Shoppette	82 (82)	98 (100)	92 (92)	100 (100)	71 (71)

There was no significant drop in survival at the Main Gate or the Shoppette sites between the two inspection dates. It appeared that the only significant damage which continued was at the Hospital site on the Austrian pine.

The survival rates at the Main Gate and Shoppette are within acceptable limits and are very comparable to a typical windbreak during the first year of establishment. The survival rates at the Hospital are not within acceptable limits. It appears that the rodent population is much higher at this site due to the sagebrush surrounding the site.

Because of the large rodent population near the hospital site, the best alternative would be to replace the species which are being damaged the most with less palatable species such as Rocky Mountain Juniper and Austrian Pine. In 1997, The PMC will replace the Robust poplar with Austrian pine and the chokecherry with Rocky Mountain Juniper at the hospital site and replace all other dead material. The Air Force will continue to concentrate on the application of poison at all sites to help control the rodent damage. It is also planned to install approximately 12,385 running feet of new windbreaks next spring.

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