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Winter Survival Strategies for White-tailed Deer

Winter is hard on white-tailed deer. Unlike migratory species or those that hibernate, deer must endure winter 24 hours a day, 7 days a week. Fortunately, Mother Nature has provided some survival strategies to help them survive the season.

By winter's arrival, deer sport a double-layer fur coat. A wooly undercoat next to the skin provides excellent insulation and helps retain body heat. The outer coat, consisting of longer, hollow guard hairs, traps body heat that may have escaped the undercoat. Deer can look fluffy when they raise these guard hairs to enhance heat retention. The dark colour of the hair also absorbs radiant heat.

Gaining weight before winter socks in is a crucial survival strategy for deer. Dense layers of fat will be burned during lean times and also provide insulation against the cold. In autumn, deer seek high fat, hard mast crops like acorns and beechnuts as well as apples, grapes and other fruits. These choice foods help build fat. When available, they will eat around 1.5 pounds of acorns a day per 100 pounds of body weight. During this time, deer undergo 'obligatory weight response', a seasonal adaptation that causes their digestive processes and nutritional needs to change to allow maximum food-to-fat conversion in preparation for winter, regardless of the quality of browse consumed. As the cold weather settles in, the deer also experience a decrease in metabolism to preserve fat. Bucks have it especially rough in the fall, when they can lose up to 25% of their body weight pursuing does during the rut (breeding season). Consequently, in December bucks often forage during daylight hours in an effort to recoup lost fat reserves so important to winter survival.

When temperatures start to plunge and the snow pack deepens, white-tailed deer behaviours change, too. In northern climates, many will migrate to wintering areas called deer yards, which might be as close as a few kilometres away or far as 50 kilometres. Deer yards typically offer dense coniferous cover overhead (cedar, fir, spruce and hemlock) that sifts and retains snow. This allows easier movement for the deer. The yards also provide windbreaks which help the animals conserve heat. White-tailed deer use another survival strategy by forming herds and establishing well-worn trails throughout their winter range. Living communally is advantageous, as individuals are able to conserve energy by not having to forge new trails through deep snow. Yarding is a learned behaviour, and locations and routes are passed down from generation to generation.

The colder it gets, the less inclined the deer are to wander in search of food. Frigid temperatures and treacherous footing encourage them to stay put and bed down, as searching for poor-quality browse like woody twigs is not worth the energy expended. In the thick of winter, the metabolism of white-tailed deer may drop by half and they might only feed once daily. When the weather is especially harsh, they may hunker down for days. It is during these cruel times that those precious fat stores can see them through. On sunny winter days, deer often gather on south facing slopes, trying to absorb some warmth...anything to conserve energy. Larger sized deer typically fare better during the winter than smaller ones, as they tend to produce heat more efficiently and retain it better. They can also forge through deep snow better.

Yes, wintertime is tough on deer, and despite their incredible survival adaptations and strategies, some will perish – but the strongest and fittest will survive to pass on their winter warrior genes to the next generation.

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