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Diverse Deer Diets

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When managing for white-tailed deer, maintaining habitat that provides adequate nutrition is of utmost importance. Conducting our research we have compiled diet data for two years by observing tame deer foraging in a natural environment. Diets of deer we observed were highly variable making it difficult to provide a general description of what deer eat.

Vegetation on any two ranches can vary considerably and such differences may change seasonally. This variation in vegetation can cause variation in deer diets. Such differences were apparent in our two study sites, the Comanche and Faith ranches, located only about 25 miles apart. The following table illustrates this variation by showing the top five forage species and top forage class eaten by deer for each season and study site. Browse is the leaves and twigs of woody plants, forbs are non-woody, weedy plants, and mast is the fruits and seed pods of woody plants and cacti.
To thrive amidst a rapidly changing environment, deer take advantage of valuable forage in the short amount of time it is available.

	Fall 2007		Winter 2008	
Rank	***Comanche***	***Faith***	***Comanche***	***Faith***
1	Blackbrush Acacia	Prickly Pear Mast	Twisted Acacia Flower	Twisted Acacia Flower
2	Guajillo	Blackbrush Acacia	Blackbrush Acacia	Blackbrush Acacia
3	Granjeno	Kidneywood	Guajillo	Guajillo
4	Common Broomweed	Brasil	Dead Blackbrush Acacia	Blackbrush Acacia Flower
5	Twisted Acacia	Common Broomweed	Prickly Pear Cactus	Dead Blackbrush Acacia
Class	Browse	Mast	Browse	Browse

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	Spring 2008		Summer 2008	
Rank	***Comanche***	***Faith***	***Comanche***	***Faith***
1	Blackbrush Acacia	Guayacan Mast	Guajillo Mast	Desert Yaupon Mast
2	Buffelgrass	Blackbrush Acacia	Granjeno	Rain Lily
3	Guayacan Flowers	Twisted Acacia	Blackbrush Acacia	Granjeno
4	Guayacan Mast	Guayacan Flowers	Granjeno Mast	Low Menodora
5	Lotebush Mast	Lotebush Mast	Desert Yaupon Mast	Karnes Sensitive Briar
Class	Mast	Mast	Mast	Forbs

During fall, deer on one ranch consumed more prickly pear mast than any other forage. Twisted acacia flowers were of particular interest for a few weeks in winter. Palo verde and guayacan flowers and lotebush mast appeared with the warming temperatures of spring and were an ephemeral favorite. In the summer, deer readily seek the green stems and white flowers of rain lilies speckling the range after intense rains. The summer also brings the mast of guayacan and Texas persimmon, which we found to be deer favorites.

While conducting our research we observed deer eating items not commonly considered deer forage. During fall, deer consumed a surprising amount of prickly pear pads. In winter the amount of dead leaves eaten by deer was astonishing. Dead blackbrush acacia leaves comprised 57% of one deer's diet. A locally abundant rust, *Ravenelia subtortuosae*, infects and disfigures the new growth of South Texas' twisted acacias each March and April. Twisted acacia infected with this rust is an unexpected favorite of white-tailed deer in the area. Deer generally select forbs and shrubs but, during the spring of dry years, grasses become an important food source. Oddly, we have also observed deer chewing antlers, bones, remnant tortoise shells, and even snail shells. Our best theory to explain this phenomenon is that deer need additional calcium and phosphorus to make up for deficiencies in their normal plant diet.

Take Home Message

- White-tailed deer diets in southern Texas vary drastically over time and from one property to the next. Deer depend on plants only available for a short time and on items most of us may not consider deer forages.

- Our results promote one common theme: deer require a wide variety of forages throughout the year to meet dietary needs for survival, growth, and reproduction. Deer habitat should be managed to promote the growth of a diverse array of vegetation which will increase the likelihood that deer's nutritional needs will be met even in an ever-changing environment.