

distributed accordingly, at heights of 20, 40, 60, 90 (and 120) cm from the ground. The space between the stakes can differ, but is usually set at 4-5 m. In corners and "breaking points" in the fence, the stakes should be strong and sturdy (like old telephone poles) to secure that the wires are stretched properly. The stakes in between can be of a lighter material like plastic, fibreglass or eucalyptus. There are also springs available that allow a longer distance between the stakes when the ground is fairly even.

The voltage in the wires should be at least 5000 V, so it is important to get a unit (aggregate) that has strong enough capacity (today most of the units on the markets can make it without problems). A good unit is able to provide enough energy for a fence of 10-20 km that covers an area of about 500-2000 ha. The unit should preferably be mains-operated, this is both economically and practically beneficial. If the fences are mounted far from electricity, batteries or solar cells can be used. The pastures in Sweden are not so large; the largest electrical fence to our knowing covers 40 ha.

An estimated cost covering both wires, stakes, aggregate, etc, is 15 SEK (\$1.48) per meter. There are many trademarks, some more exclusive than others, but it is not always necessary to get the most expensive. The cost will naturally increase with more difficult terrain.

It is very important to fence the area properly and not leave natural borders (i. e. rivers, ditches or shores) without fence. Sheep don't go in the water, but predators do and we have actually had observations of lynx crossing rivers on their own initiative! It is also important to avoid trees and large rocks in absolute contact with the fence; they can be used as simple "steps" into the enclosure. The fences do require recurrent management such as keeping growing vegetation away from the wires; but if maintained properly they last for 10-20 years (depending on what material one use). Electrical fences can fundamentally be mounted anywhere, although mounting and managing is easier on flat lands than in mountainous areas. The problem is more a question of maintaining the fence (which can take a fair amount of time) than if the unit is able to keep the voltage. Also, ungulates on the outside of the fence can cause problems running into it. There are, however, solutions available in different kinds of springs and bendable stakes.

The Wildlife Damage Center oppose electrical nets of all kinds since they are expensive, don't last for long and also are risky for animals inside as well as outside the fence. They can, nevertheless, be a

temporary solution after a "first time attack", to prevent further damage that same season.

In Sweden animal keepers can be subsidized by the county administrative boards when buying a predator-proof fence. So far they have been very effective all over the country. There has not been any attack from either wolf or bear on domestic animals inside a well-functioning electrical fence of this type. European lynx has also successfully been kept outside, but there is a need for more detailed studies on lynx and electrical fences, since there is no documentation on whether they would jump between or on top of the wires or not. The Wildlife Damage Center plan to perform such a study in 2001.

This article is not complete regarding electrical fences. Salesmen in the fence trade offer a lot of different solutions to various problems that may arise. Contact your local salesman or take a look at the Internet for more detailed information. The Wildlife Damage Center has written recommendations that are distributed to authorities and private people.

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Donkeys protecting livestock in Namibia

by

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Namibia, an arid country in southern Africa, is home to the largest remaining population of free-ranging cheetahs (\pm 2,500 animals or 20% of the world's cheetah population). Due to conflict with larger predators in protected game reserves, over 90% of Namibia's cheetahs are found outside protected reserves on open range commercial livestock farms where cattle, goats and sheep are raised. Over 80% of the countries agriculture income comes from the cattle farming industry. Cattle are managed in an open range system on farms that average in size of 10,000 hectares. In addition to livestock, over 70% of Namibia's large mammal species are found on these livestock farmlands thus providing an adequate prey base for cheetahs. However, cheetahs have been considered vermin and killed in high numbers. Between 1980 and 1991, CITES (1992) reported nearly 7,000 cheetahs removed from these farmlands by Namibian farmers, thus halving this cheetah

population.

To understand the conflict between farmers and cheetahs, I conducted a personal survey with Namibian farmers and found that many farmers had found solutions to livestock predation through the use of livestock management techniques. One of these management techniques included the use of donkeys to protect calving herds. Many Namibian farmers have successfully used donkeys as guarding animals in their calving herds to ward off cheetah and other predators. Donkeys are generally docile, but seem to have an inherent dislike for intruders such as cheetah, black-backed jackal, caracal and domestic dogs. One of the farmers interviewed stated that he has been using donkeys systematically since 1986 and has reduced his losses to almost nil. Where prior to his use of donkeys he had lost over 32 calves in one year to predators. Other farmers provided similar information and stated that donkeys were often used a century ago when the Namibian farms were first being developed. But, this simple practice had nearly vanished as predators were eliminated as a typical management practice.

Placing guarding donkeys with cattle follows the same idea as placing a Livestock Guarding Dog with sheep. For best results, an individual female donkey is placed with each calving herd. Donkeys are placed individually in herds so they do not bond to other donkeys, but to the cows in the herd. For the most effective guarding behaviour, the donkey and cows' breeding should be synchronized so that the donkey gives birth to its foal a month before the cows begin to calve. The female donkey not only protects her foal but all the calves in the herd from predators.

Namibian farmers indicated that using donkeys provides a high success rate in livestock protection provided at a low cost and easy management. However, reports of success using donkeys to reduce predation did vary. Improper husbandry or rearing practices and unrealistic expectations probably account for many failures. Some key guidelines in using a donkey for predation control include: (1) using only a mare or gelding (donkey stallions can be aggressive to livestock); (2) allowing the donkey to bond with the herd it is to protect (allow 4-6 weeks); (3) using only one donkey for each herd, except for a jenny with a foal; (4) testing a new donkey's response to predators by challenging it with a dog in a pen or small pasture (do not use donkeys that react passively during this test); and (5) using donkeys in small open pastures with a moderate-size herd. Additionally, donkeys were useful for stopping fights in a bull herd!

Mules also have been used for protection and are thought to be more aggressive than donkeys. One farmer reported seeing a leopard trampled to death by a mule. Although mules are aggressive guard animals, they have been known to "steal" calves for their own, since they cannot reproduce.

Zebras, horse stallions and horned oxen have been also been used successfully to deter predators in Namibia. The early settlers in Namibia commonly kept horned oxen with their calving herds. Some farmers thought that cattle, especially females, should never be dehorned; and that mature cattle are more successful against predators than heifers (cows calving for the first time).

The ideal situation on farmlands is to maintain a healthy balance of wildlife thus deterring predators from livestock predation, and the integration of various livestock management techniques. The use of an easy management programme like guarding donkeys has proven successful in Namibia.

Wolf return in Switzerland: a project to solve conflicts

by

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The wolf populations of the French and Italian Alps are expanding. Since the mid-90s, several pioneers have regularly reached the Swiss border and attempted to colonize the country. In 1994, one individual settled in the Val Ferret-Val d'Entremont area (canton Valais). Its tracks were lost after a game warden had shot it early 1996. Two and half years later, a young male was found dead in Reckingen (canton Valais). The necropsy showed that the animal had been illegally shot. In February 1999, another male was run over by a snowplough on the Simplon pass road close to the Swiss-Italian border. Finally, two individuals were shot by game wardens last August in the Val d'Hérens and Tourtemagne valley (canton Valais) respectively. The fates of these wolves reflect perfectly well the extent of the difficulties encountered by wolves and humans to cohabit in an agriculture-dominated region like Switzerland. Actually, these violent deaths result from a locally hostile public opinion towards the wolf following frequent attacks and killings on sheep flocks. Around 250'000 sheep – 75'000 in the canton Valais only – graze in the Swiss Alps, most of them unat-