

Experiences with the *Maremmano-Abruzzese* as a Livestock Guarding Dog in Switzerland

by
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Introduction

The *Maremmano-Abruzzese* (*Maremmano*; Figure 1) originates from the *Abruzze* province, Italy, where its use as a livestock guardian dog (LGD) has been known for 2000 years (Kaufmann und Deckert 2004). This majestic and strong, yet at the same time agile and active dog has been bred with a strong instinct to guard and protect sheep and goat herds against predators; mostly wolves *Canis lupus* and the European brown bear *Ursus arctos*. Since these large carnivores have never been eradicated in Italy, the *Maremmano* breed shows continuous bloodlines in which every dog has been bred from working parents. A study conducted at the University of Idaho in 1986 that compared five different LGD breeds, out of which *Maremmanos* made up for 3 %, has shown no significant differences in the success rates of the LGD breeds (Green and Woodruff 1999). However, behavioural differences were noted. For example, the *Great Pyrenees* seemed to be less aggressive to unfam-

iliar dogs than other guardian breeds. According to experience in Switzerland (not statistically tested) from 1999 up to now, the *Maremmano* tends to show a more vivid temperament than the *Great Pyrenees*. Taking into account the lighter bodyweight (males: 35-45kg, females 30-40kg) and agility of the *Maremmano*, he appears to be well adapted to steep and mountainous terrain.

The reintroduction of the Lynx *Lynx lynx* in Switzerland in the early 1970's and the reappearance of the wolf in 1995 (www.kora.unibe.ch) have led to the need for livestock protection measures. The first livestock guarding dogs were imported and introduced into sheep flocks in 1996. In 1999 the SAEFL initiated the Swiss Wolf Project which dealt with prevention measures in a series of pilot projects. This project ended in 2003 (Landry et al. 2005). At present, the Livestock Protection Project - initiated by the SAEFL in 2004 - is led by the Service Romand de Vulgarisation Agricole (SRVA, agricultural consultancy service) and its structure is the topic of the article written by Daniel Mettler in this issue of CDPNews.

Aim of the project

The aim of the "Livestock Damage Prevention Program" is to improve and adapt methods that enable sheep farmers to efficiently protect their livestock against large carnivores. These methods include the integration of LGDs, electric fencing at night (often in combination with the use of LGDs), and in some cases financial support for the reintroduction of a shepherd on alpine pastures where animals have been free ranging prior to wolf attacks. Since most of the damage caused by large predators occurs during the summer months when 250.000 sheep (<http://www.bfs.admin.ch/>) and goats are taken to the alpine pastures (Doutaz & Koenig 2004), special atten-



Fig. 1: A *Maremmano* dog establishes close contact with the goats he will have to protect.
(Photo: Kathrin Rudolf)

tion is given to livestock protection measures that are practical in a mountainous environment. Specific problems arising from this environment include difficult terrain, transport and feeding difficulties, unfenced pastures with hiking trails crossing etc.

The *Centre for Livestock Protection in Jeizinen*, led by W. Hildbrand, is part of the project. Its objective is to breed *Maremmanos* that are reliable in their guarding behaviour, cause no damage to livestock, are tolerant *with* respect to people and thus can gain acceptance among sheep farmers and the public. The *Centre for Livestock Protection* offers professional practical and advisory assistance with the integration of LGDs into herds affected by wolf or lynx attacks. Furthermore, support is provided to farmers who are facing problems with LGDs that are already working on their farm.

Breeding

From the beginning of the pilot phase in 1999 up to the present, a total of 10 *Maremmano* dogs have been imported from Italy. During this period, 13 litters have been born and there are presently 43 individuals of the *Maremmano* population working as protection dogs. Breeding occurred with the first *Maremmanos* taken to Switzerland as livestock guarding dogs, their offspring and additional dogs imported from Italy. However, the breeding was based on rather limited genetic material. Currently, we are facing the situation where a majority of the *Maremmano* LGD population in Switzerland are close relatives. At the *National Meeting on Livestock-Protection* on January 2005 in Andermatt, organised by the SRVA, an urgent need for a breeding program with clear goals and selective reproduction has been voiced by several participants. Furthermore, an expert group was founded in 2004 consisting of breeders of LGDs, sheep farmers, a veterinary surgeon, project coordinator, a representative of the Swiss Kynological Society SKG, SLGDA, SSDS,

and the chairwomen of both the *Maremmano Abruzzese* and the *Great Pyrenees* clubs in Switzerland. The group deals with pressing issues concerning LGDs in Switzerland and is currently developing feasible and appropriate breeding guidelines and criteria. In the context of controlled reproduction, neutering of dogs has become an important and much discussed issue. Studies in America (Green and Woodruff 1999) and experiences in Namibia (Marker et al. 2005) with neutered dogs did not indicate any detrimental effects on the guarding qualities of the animals. Changes in the dog's hormone system do not seem to alter their instinct to guard. However, the question remains at what age the dogs should be neutered or chosen to be part of the breeding program, respectively. The efforts to establish controlled breeding standards for the *Maremmano* LGD in Switzerland should also be seen in the context of an intensified international cooperation, especially with the neighbouring countries Italy and France.

Dog rearing at the *Centre for Livestock Protection*

The *Maremmano* puppies are born in the sheep barn, in order to ensure the development of a close bond with the sheep, their noises and odours from the first day on. The behaviour of the growing puppies is constantly observed and corrected if necessary. Special attention is given to the interaction of the puppies with lambs in order to prevent injuries like ear-



Fig. 2: Two young *Maremmanos* are being trained to walk on the leash. (Photo: Kathrin Rudolf)

¹ The Swiss Sheep Association of sheep breeders owners of Livestock Guarding Dogs

² The Swiss Sheep Dog Society



Fig. 3 : Three *Maremmanos*, a male, a female and a 4 month old puppy, are being fed inside the night pen and close to the flock into which they have been introduced 3 days ago. (Photo: *Riccarda Lüthi*)

biting or other aggression. Basic training on the farm of the *Centre for Livestock Protection* consists of the dogs learning to come near when called, respecting a negative command, walking on the leash (Figure 2), knowing and respecting electric fences and fitting into different groups of sheep and other LGD teams. Throughout the training, it is a major challenge to identify dogs that are both completely loyal to their flock and at the same time sufficiently socialised with people.

We observed behavioural maturity in the *Maremano* at an age of approximately 2 years, which corresponds well with results *from* studies in America (Green and Woodruff 2002). During the first two years of maturation, the trainer needs patience and time to observe, educate and correct the LGD. It is crucial for the future success of a dog that possible misbehaviour is corrected immediately. Experience from LGDs working on farms in Namibia indicated that most dogs showed problematic behaviour at some stage, but that most problems were correctable with the appropriate training (Marker et al. 2005).

While some dogs stay on the *farm* for several years, others are already introduced into a herd of

sheep or goats on open alpine pastures at the age of 4-5 months. In these cases we strongly recommend placing the young dog together with at least one older and more experienced LGD. This will have a positive and reassuring influence on the young dog's maturation process. In general, better results were obtained with the introduction of *Maremmanos* in teams of at least two dogs, be it on alpine pastures, in pens, or in the barn during winter, than with single dogs working in a flock on their own. (Although Green and Woodruff 1999 recommend one dog for first-time users of a LGD). To achieve a balanced social structure within a team of *Maremmanos*, it is very important that aspects of sex, dominance and age are considered carefully. For example, two females with the same age or same dominant position are likely to fight with each other, which may result in the suppressed individual causing damage to livestock due to her frustration. In observed cases like this, the problems disappeared instantly after the female has been put together with a younger male LGD.

It has also been discussed whether it could be helpful to *import* competent and matured *Mare-*

manos from the *Abruzzes* (Italy) and integrate them into flocks in Switzerland. However, the few dogs that have been brought to Switzerland at an older age did not show convincing results. It must be pointed out that the conditions for a LGD working in the Swiss alps are not the same as in the *Abruzzes* province. The conditions in the *Abruzzes* province are certainly less restrictive than in Switzerland where population, farm and wildlife densities are considerably higher and where the alpine environment is being intensively used for tourist activities. Consequently, different aspects need to be considered and different expectations concerning the dog's behaviour are evident, for example a better socialisation with people (tourists) is necessary. A grown up *Maremmano* that has been working well in the *Abruzzes* may cause problems if taken to Switzerland and put into the new context. Difficulties were observed especially with one dog coming from the *Abruzzes* at an age of 1 year: he was very shy and showed a habit for roaming too far away from his flock, covering a huge territory and hunting for wildlife. Extreme shyness could possibly also lead to fear-aggression behaviour.

Integration into flocks

To date, 43 *Maremmanos* have been introduced into flocks (Figure 3) in Switzerland and the majority are working successfully (not considering the recent litters with the puppies (24) that have not been placed yet). In 2004 *Maremmanos* were introduced into a herd of dairy goats for the first time in Switzerland with very good results. Within the project, five *Maremmanos* had to be put down for behavioural reasons:

- One was too aggressive toward other dogs, especially females. This dog started to work within the project at a relatively old age of 7 months and may not have gone through an appropriate basic training and lacked a correct socialisation with dogs;
- One wandered too far away from the flock and hunted for wildlife. This dog has been imported from Italy at a relatively old age of 1 year and may also not have gone through an appropriate basic training;
- One dog – although bonded with sheep – caused injuries through playfulness and the attempt to keep all sheep in one corner. This dog was integrated into a flock at a juvenile age as a single dog. The training and integration of this dog was out of our control and may have been inadequate;
- One dog caused problems at a juvenile age of 7-10

months, starting with intense playfulness that had not been corrected at the right time and resulted in severe injuries to livestock;

- One dog was too restless and was disturbing the livestock.

Two dogs have shown an insufficient bonding with livestock and were therefore removed from their open alpine pastures: one has been placed in a context where there are no unfenced pastures and the other one has been taken back to the *Livestock Protection Centre*, kept at more distance from people and given time to mature. The integration of the *Maremmano* dogs has often to be done in summertime on alpine pastures, although this cannot be considered to be the ideal time to integrate dogs into new flocks. French authors pointed out in an article in 2004 that the integration of LGD pups in winter is more advantageous because of the following reasons:

- the dog can be observed easily and permanently by the farmer and correction measures can be taken right away;
- the limited environment inside the sheep pen increases close contact between the two animal species and enforces the relationship of the dog with each individual of the flock;
- there are no risks for the livestock because of the absence of rugged and dangerous terrain that characterises summer pastures (Rousselot and Pitt 2004).

These three points are also true for the integration of an adult LGD, although they are of less importance for more experienced dogs. However, as the return of the wolf to Switzerland is also a strongly political issue, the livestock protection measures have to be offered at the prime time of the experienced wolf attacks, which is in summer. To support such integration measures under sometimes difficult conditions, an *Intervention Group* has been founded in 2003. This group of shepherds is specialised in the use of LGDs and is on stand-by from April to October to implement protection measures - integration of *Maremmanos*, use of night pens, support of the herder, gathering of missing sheep - on alpine pastures throughout Switzerland. The exact procedure of integration and the time needed varies in each case and depends on different aspects:

- the number, age and character of the dogs that are going to be integrated;
- the flock size and reaction of the sheep/goats to the dogs;

- the condition of the terrain and infrastructure of the pasture;
- the presence, professionalism and cooperation of the herder;
- if there was a pack of wolves, the number of dogs would need to be increased, and good guidance and control of the flock by the herder and night pens would be even more important.

For a successful introduction and long term use of the *Maremmanos* on alpine pastures, the responsible herder plays a very important role. He is the person who will have to deal with the dogs every day. He will feed, observe and correct them if necessary and he never lets them get close to his hut or picnic place. Moreover, on unfenced alpine pastures, the herder keeps the flock together, avoiding scattering of the animals in small groups, and thus considerably increases the efficiency of the LGDs. Ideally, the most experienced LGDs should be integrated in urgent cases after wolf attacks on alpine pastures. However, the number of experienced LGDs in Switzerland has been limited and thus also younger dogs have been integrated. It must be considered as well that it is advantageous if the already experienced dogs can be acquired by the sheep farmers and that they should be interested in LGDs as a long term option to protect their flocks. After all, the removal of a well integrated dog and the integration of a new one will be time consuming and causing disturbances among the sheep.

Conclusions

The use of LGDs as a measure to protect livestock against large predators has been a direct response to the return of the wolf to Switzerland in 1995/96. This was a new concept for Swiss sheep farmers, which did not demonstrate much acceptance in the beginning. Experience and knowledge about the use of LGDs and their behaviour still were at an early stage, and its feasibility in the Swiss context had to be demonstrated. In many instances, however, sheep farmers who were first very critical about LGDs protecting their flocks were later absolutely satisfied with the way these dogs were working. Both from the majority of functional *Maremmanos* and from the minority of problematic cases important lessons have been learnt:

- Playfulness that leads to injuries and losses has been a common problem especially in young dogs and it must be taken seriously. But, with careful observations, the appropriate training and correc-

tion at the right time, the chances are good that the dog will not take his playfulness as a habit into his adult life but will become a trustworthy guardian.

- “Mobbing” and unbalanced social structure within a team of *Maremmanos* can be successfully controlled by removing or exchanging individual members of a team. Taking into consideration the age, sex and dominance of the dogs this problem can be often avoided from the very beginning. Better results have been obtained with *Maremmanos* working in a team than with single dogs.
- Attachment to people: Two *Maremmanos* have shown more attachment to people than to livestock and thus were insufficiently loyal and attentive to their flock. This probably depends on the individual character/temperament of a dog plus its experiences with people during his young age and process of maturation. This behaviour is not desirable and can render a dog ineffective as a LGD. But, since the encounter between tourists and LGDs on alpine pastures in Switzerland is rather the rule than the exception, it is still safer to have a dog that is too friendly rather than too aggressive.
- LGDs Roaming too far from the flock. There may be different reasons for this behaviour: females in heat, hunting for wildlife, searching for food leftovers near huts or houses. Roaming in male dogs may be reduced if the dog is neutered (Green and Woodruff 1999).
- Harassment of sick individuals that stay behind or show abnormal behaviour has been observed in some cases; mainly with dogs younger than 2 years. In this situation it can be difficult to correct the dog; whenever possible the sick animal should be separated until its recovery.
- Too aggressive guarding behaviour (with respect to other dogs, people). This behaviour raises questions concerning the further use of the dog, unless an obvious reason for the dog’s behaviour can be detected and excluded for the future. Such individuals have to be consequently eliminated. None of the working dogs showed such an aggressive behaviour.
- Imported adult dogs coming from a different context should be treated carefully, especially if it is unclear how the puppies have been raised. It may be safer to import puppies from the *Abruzzo* province at a very young age (8-12 weeks) and to do the basic training in Switzerland.

These experiences from the past years will certainly facilitate the integration and use of the *Maremmano* dog as well as other LGD breeds in

Switzerland in the future. For sure, the process of learning more about the LGDs and developing a better understanding of the various interactions between dogs, livestock and people is a continuing challenge with the goal to improve the methods of introducing and working with LGDs. An important step to be implemented in the near future is to get control over the breeding lines, and to establish a breeding program which takes into consideration aspects of the dog's behaviour, genetics and health.

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