

## **Plenty of muscle and the power of persuasion**

**Brawn – as well as brains – has been key to the success of the semen collection programme carried out by the Slovenian HERITAGESHEEP project team. And despite many obstacles and set backs – including heavy snow and wolves – it has collected an impressive amount of semen so far.**

A battle against the elements, and native predators, has done little to dampen the enthusiasm of the Slovenia's HERITAGESHEEP project team, which is charged with collecting semen from some of the country's heritage breeds. In some instances brawn – not brains – won the day and despite some bad luck the team is well on its way to completing the task with considerable success.

Heritage sheep breeds (HSBs) are defined as genetically distinct, geographically concentrated and adapted to their environments. Typically, these sheep breeds are 'local' breeds, traditionally farmed for commercial use, and play an important role in the culture and rural economy of the regions in which they are managed.

What is HERITAGESHEEP?

The aim of the HERITAGESHEEP EU project is to establish a European-wide conservation programme of HSB genetic resources for the diversification of production in livestock agriculture and for their central importance in the long-term sustainability of medium- to low-input farming systems. More information can be found on [www.heritagesheep.eu](http://www.heritagesheep.eu).

And it's for this reason that semen from some of the best rams of each breed are being collected and stored for future generations – should they ever be needed. A threat facing all HSBs is the risk of disease entering the region in which the breed is geographically concentrated. Bluetongue and foot-and-mouth disease are just two that are fresh in farmers' minds. The impact of these diseases and from procedures such as culling, taken to prevent disease spread, can be catastrophic. This risk was highlighted during the foot-and-mouth disease epidemic in the UK in 2001, when regional breeds located in the disease centres suffered disproportionate losses to their gene pools.

## PARTICIPATION PERSUASION

Persuading sheep breeders to take part – or rather to offer their rams for semen collection – was relatively straight forward, according to Drago Kompan, who headed up the Slovenian team. He's assistant professor at the University of Ljubljana's zootechnical department.

“Because the national selection centre in Slovenia is part of the institution that is also taking part in this project, we have permanent contacts with the breeders' organisations. All the breeding work is carried out in partnership with the breeders and their organisations,” he explains.

“Our co-workers and extension personal have attended their meetings, on both a national and local level, regularly during the past three years.”

The HSB project and its aims were explained to them all during their annual meetings and they were all more than willing to assist in the project. They understood its importance in protecting the future prosperity of their respective sheep breeds, according to Drago.

## WHICH BREEDS?

Deciding which breed to choose for semen collection was also relatively straight forward. The project team looked at the effective population size, geographical isolation, and other unique traits. And a huge emphasis was given to each breed's vulnerability in the case of possible disease outbreak.

“Due to the outbreak of bluetongue disease in neighbouring Croatia, Italy and Austria we decided to collect semen from the two most endangered breeds of sheep. Both are located close to the bluetongue-infected neighbouring countries,” says Drago.

Predators, such as the brown bear, wolf, and lynx, also ‘make trouble’ and threaten the breeds, particularly the Istrian Pramenka and Bela Krajina Pramenka breeds. “So these were the breeds that we selected.”

## BREED DESCRIPTIONS

The Istrian Pramenka milking breed has quite a large frame, owing to the highly placed torso and long strong legs. Its udders are a good shaped, fastened high, with large teats. The sheep's multicoloured wool does not cover the animals' entire body – their legs and stomach are naked and other body parts are only covered with shaggy fleece.



As with other breeds, Istrian sheep are not all alike, and this characteristic has given way for the animals to be named after the location rather than their appearance (since the sheep look different from one breeder to the next). The breeders breed, for example, white, black, spotted, patchy sheep, short-eared sheep, horned sheep, and horn-less sheep.

Istrian sheep have a couple of traits in common: their tenaciousness and adaptability to relatively rough surroundings. And their milk contains, on average, 7.2% fat and 5.9 % protein. Some ewes will produce milk with more than 8% fat and 6% protein.

Slovenia's Bela Krajina Pramenka sheep have long fringed wool, which acts as a good protection against the cold and rain but it is not appropriate for manufacturing because all woollen products are extremely rough. The most common coat colour is white, although it is almost impossible to find an animal that would be purely white because black dots or spots on the head and legs are characteristic of the breed.



The sheep's tails are unusually long, and reach down to just a few centimetres above the ground. Rams have extremely large horns, which are curled several times as the animals get older. Sheep may have horns too but they are short.

## TRAVEL ARRANGEMENTS

Despite their willing participation, not so straight forward was getting breeders to take their rams to the semen collection centre in Ljubljana. And sometimes team members had to go to individual farms to collect rams themselves.

“One of the team travelled to one farm with a jeep and livestock trailer to pick up some rams. But, due to the unexpected weather, he got stuck in the snow just 500 metres from the farm.

“So he had to lead the rams to the trailer, through the snow, on a leash. He even had to carry some of the rams,” explains Drago. “When you consider the weight of the rams that was far from easy to do – particularly in those weather conditions. That’s dedication for you!”

With another Bela Krajina Pramenka breeder, the team agreed to collect semen from one particular ram. However, in the meantime, the breeder's flock had an unexpected ‘visitor’. “A wolf attacked the flock and killed the chosen ram. How unfortunate was that?” says Drago.

## HAPPY ENDING

But despite these set backs – however unusual and unlucky – the team continued to work hard. Semen was taken by the veterinary service in Ljubljana, in the department of reproduction, using the electro ejaculation technique. And, up to now, the team has collected semen from a total of 40 rams – 20 per breed.

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