

Why hasn't haymaking taken off in Africa?

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Introduction For hundreds of years farmers in Europe and other parts of the world have cut grass in the summer to preserve for use in the indoor-feeding period. In some countries this period could last as long as 8-9 months. Grass harvested and conserved as hay in the early summer is highly nutritious, hence less is required to cover the needs of the animals compared with late cut hay. This haymaking has been the basis for animal production and fundamental for survival and economic growth for generations.

Some countries in Africa have a dry season of similar duration. Some years the rains fail to come, resulting in a drought of twice that length with catastrophic effects on humans and animals. Several attempts have been made to introduce haymaking technology to Africa without much success (Oteng 1992). This leads to the obvious question: why has small-scale haymaking not been adopted in Africa?

Grazing is the dominating feeding regimen for wild and domesticated ruminants in most parts of Africa, although zero-grazing (stall feeding) systems have been introduced in densely populated areas (e. g. the slopes of Kilimanjaro) and in areas of vulnerable farming systems, e. g. Kondoa, Tanzania (Mtengeti *et al.* 1992). This system is based on "cut-and-carry", whereby grass, legumes, shrubs and crop residues are collected wherever they are available and brought to the homestead for feeding.

Workload Cutting and conserving grass by hand is heavy work, particularly when the weather is unstable. If the work force at the farm is limited, this may simply be the reason for lack of adoption of this technology. If high-quality hay is to be produced, the grass should be cut in the rainy season or shortly after. This is often a busy period on the farm with weeding, harvesting and other labour-consuming activities.

Land In densely-populated areas, there may be a shortage of grass (land) available for harvesting. In most parts of Africa, however, there is no shortage of land that can be harvested during or after the rain(s). The quality of the wild grasses and herbs will vary, but experiences from Sokoine University of Agriculture, Tanzania revealed that cut-and-carry-grass sold on the roadside may be of excellent quality (J. A. Kategile personal communication).

Equipment Small-scale haymaking is possible without high-tech equipment (Suttie 2000). A scythe and a rake are essentially what are needed. These are simple to make and local manufacture should be possible almost everywhere. The traditional tool for cutting grass in Africa is the slasher. By this the grass is more beaten off than cut and the method is laborious and ineffective. Experience (own) has shown that the scythe is more than twice as efficient as the slasher, especially in thick grass. When cutting hay with a scythe, it is absolutely essential that it is sharp. A blunt scythe makes the work of cutting grass very hard and this could be one of the reasons why attempts to introduce small-scale haymaking in Africa have failed.

How to sharpen the scythe? A traditional way of sharpening the scythe has been to use a whetstone turned around by a crank. For a small-scale farmer this may be an unaffordable investment. A whetstone is, however, not needed by every farmer and one in the village might do. In addition, each farmer should have a small hand sharpener to be used between each main sharpening. Manufacturing of whetstones and cranks could give an opportunity for small-scale industry, which could make them cheaper and more available than those bought from overseas.

Weather It is difficult to make hay when it is raining. However, poor weather conditions are not considered to be a serious obstacle for haymaking in most places in Africa. Even during the rains, the chances for getting hay to dry are probably better than what is often the case in the summer in Western Europe.

Handling Dry hay is voluminous and may be difficult to handle and transport. Simple methods for baling of hay have been developed (Massawe *et al.* 1998), making this work considerably easier. For transport over longer distances donkeys and light hand carts are being used.

Storing If hay is to maintain its high quality for several months, it has to be stored properly. Stacking is an old method still being used for storage of hay and straw, for example in Asia. The dry forage is piled up around a pole in a cone-formed stack, which makes the water run off the outer layer when it rains. Other stores may be barns or simple shelters, but these require

more investment than the stacks.

Another problem that may occur, when storing hay in Africa, is that of termites and rodents. Storing of the hay above the ground has been used to overcome this problem.

Training and Extension To cut grass with a scythe requires some practice. Training is, therefore, essential for successful introduction of the technology. The risk of failing is considerable without first-hand knowledge and experience with the tools.

Conclusion This paper analyses factors that may explain some of the reasons why haymaking has not been widely taken up by small-scale farmers in Africa. Feeding of hay to animals in the dry season, may even out seasonal variations in health and production level of the animals, and during periods of drought it may save the life of both animals and humans. Haymaking could be a technology allowing poor farmers to respond to increasing global demand for animal products.

A project is proposed, whereby the feasibility of adopting this intermediary technology among small-scale farmers is investigated.

References

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