FACTSHEET NO 5:
ALTERNATIVE FEED & SUPPLEMENTS FOR ORGANIC LIVESTOCK

Background

Namibian livestock production on open veld is already aligned to organic principles and standards in many aspects. There is significant opportunity for farmers to convert to full organic livestock production to realise the potential of both local and international organic markets. Livestock fed exclusively on natural pastures have an advantage because they do not require feed that is potentially contaminated by harmful synthetic chemicals (such as pesticides) or contains genetically modified organisms (GMOs) and has been imported through fossil-fuel-heavy transport systems. Implementing sound rangeland management strategies is therefore the foundation for successful organic livestock production. Livestock must be robust and adapted to thrive in their environment, needing little inputs. However, during the dry season, the biggest challenge to the sector is the sustained availability of affordable good quality local animal fodder, even more so during a drought. Animal fodder ranked as the eighth largest import good in Namibia, with imports valuing close to N$ 4 billion.[1]

Alternative sources of feed

Bushfeed

Bush-based animal feed is a solution for many farmers to overcome drought periods. As large parts of Namibia's rangelands suffer from bush encroachment, bush feed is a viable option to keep grasslands open and healthy, with improved species composition and higher biomass production per hectare. Exceptional growth rates of up to 7 kilograms (kgs) a week in cattle and 1.5kg a week in sheep were obtained by farmers who fed animals with bush-based rations.[2] Bush feed as an alternative source of feed is suitable for application throughout the year, even during years with good rainfall. Farmers planning bush feed production should consider factors such as abundance of desirable bush species, ease of handling (thorns), palatability of the bush material, availability of equipment and considerable logistics to harvest, process and store bush feed.[3] Ruminants generally do not browse on bushes (with the exception of goats and some indigenous breeds), except during the early growing season. Farmers using bush feed consequently enrich processed bush: molasses is the most used supplement,[4] followed by lucerne, maize, Vachellia erioloba (camelthorn) and Prosopis pods, bran, brewers spent, cotton seed and other types of oil cake, as well as dried and milled prickly pear cladodes.

To comply with organic rules, none of these supplements may be contaminated by or contain GMOs (the majority of maize, cotton and soya from South Africa is GMO). Animals are not allowed to be fed supplements that were sprayed with chemicals (pesticides, herbicides). Bush feed additives must come from certified organic sources to maintain full organic status. The use of tannin-binding agents (such as poly-ethylene glycols) does not comply with organic standards. Tannin poisoning from bushfeed can be detrimental to animal health, so some farmers make use of biochar (see section below) or aloe to counter the negative effects of tannins on the animal's digestive tract. With minor changes to current bush feed production systems, it is possible to meet the requirements for full organic status.

Forage legumes

Namibian rangelands provide for all the ruminant nutrition requirements throughout the rainy season but the protein content of grass declines in the dry season. The Namibian Comprehensive Conservation Agriculture Programme promotes dryland grain production with the rotation of leguminous crops. Forage legumes like cowpeas, groundnuts and lablab, and crop residues from grains like maize, mahangu and sorghum become available. They can be critical supplements in the dry season to ensure animal productivity. Research results, documented in the Namibian Rangeland Management Policy,[5] have shown that the average daily weight gain of cattle fed on rations based on lablab, cowpea, mucuna and groundnut stover were significantly higher than that of commercially-fed or grass-fed cattle. If certified organic, these bought-in supplements can make up a substantial part of the ration.

Additional forage plants

Licks may not contain Urea (Non Protein Nitrogen [NPN]) or other chemically altered substances in organic livestock production. Namibian certified organic livestock farmers have successfully used seed pods of various trees, such as camelthorn (Acacia/Vachellia erioloba), Prosopis species and Ana Boom (Acacia/Faidherbia albida), to increase protein content of licks. Prickly pear (Opuntia ficus-indica) is another valuable source of forage, cultivated widely in Namibia, containing carbohydrates, vitamin A, calcium and other nutrients. Lastly, saltbush (Atriplex nummularia) has been widely used as a good source of protein, salt and minerals by livestock producers. These forage plants, used as alternative sources of feed, can greatly enhance farmers' efforts to meet organic standard requirements, if grown organically on certified land.

Biochar offered as a free-choice supplement

Biochar has the potential to play a complementary role in combination with bush-based animal fodder. It can adsorb tannins in the digestive tract and thus help the animals to digest the feed more effectively. Adsorption, as opposed to absorption, means that toxins, such as tannins, attach to the surface of the biochar and are thereby not available for uptake or absorption by the animal's digestive tract. While tannins have some beneficial properties, an oversupply of tannins negatively impacts the animals' ability to digest feed efficiently. According to the Bush Control and Bush Utilisation report,[1] the benefits of adding biochar to the animal's diet have positive effects on toxin adsorption, digestion, blood values, feed efficiency, meat quality, and reduction in greenhouse gas emissions. Ideally, biochar is offered as a free-choice supplement, leaving it up to the animals to decide when and how much to consume. Feed biochar from Namibian encroacher bush should only be produced from natural, untreated trunk wood. For certified organic operations biochar must be produced or bought from certified organic sources.

Organic production standards in Namibia and internationally

In Namibia, organic production and processing for the local market adheres to the standards of the International Federation of Organic Agriculture Movements (IFOAM)[6] – Organics International, an internationally recognised organisation that represents organic farmers, consumers and stakeholders across the world. The Namibian Organic Association (NOA) uses IFOAM's Participatory Guarantee System (PGS) to give consumers credibility to the organic claim on the domestic market.[7] Namibia also has long-standing export markets for its free-range beef to Europe, particularly Norway, with potential and interest of buyers for certified organic beef. For the export market, organic production and processing must be certified by a third-party certification body (e.g., EcoCert, CERES) that adheres to the organic standards for the target market (e.g., the National Organic Program (NOP) in United States or European Union regulations).

Organic animals must receive their nutritional needs from organic forage and feed of good quality. At least 50% of feed must come from the farm on which livestock are being produced, or from another certified farm in the region (IFOAM Norms 5.5.3). The United States' NOP states that the producer of an organic livestock operation must provide livestock with a total feed ration composed of agricultural products, including pasture and forage, that are organically produced and handled by operations that are certified.[8] Under Namibian organic requirements, farmers may feed a limited percentage of non-organic, non-GMO feed under specific conditions (10% dry matter for ruminants and 15% for non-ruminants (IFOAM Norms 5.5.1).

Organic feeds may not contain synthetic urea (NPN) or GMOs in any form. Livestock may not be fed animal by-products such as meat and bone meal or any excrements such as chicken manure, which is also prohibited under the Namibian Livestock Identification and Traceability System[9]. Veterinary products such as antibiotics, growth regulators and heat synchronisation hormones may not be given to animals through their feed. Some commercially available phosphate licks in Namibia may be used in organic production such as de-fluorinated rock phosphate. It must not have undergone chemical treatment to make it more soluble. Animals may be fed vitamins, trace elements and supplements from natural sources. Non-organic feed materials of plant or animal origin may be used if they are produced or prepared without chemical solvents. Since there may be factors beyond a producer's control like veld fires or drought, exceptions from the set standards can be granted (e.g., feeding non-certified feed to organically certified cattle in quantities above the limits set by the standards for a certain period) to ensure animal welfare. Certified livestock farmers should always communicate with their certifier if they are unable to source certified organic feed and wish to use non-organic feed.

For more information and details, please contact the Namibian Organic Association or refer to the IFOAM Norms and Standards.

[1]Bush Control and Biomass Utilisation (BCBU), 2020. Biochar from Namibian Encroacher Bush. Practical Guidelines for Producers. Ministry of Environment, Forestry and Tourism (MEFT)/GIZ.
[2] De-bushing Advisory Services, 2017. Factsheet: Bush-based Animal Feed Survey Findings.
[3] Bush Control and Biomass Utilisation (BCBU), Policy Brief March, 2021. Namibia's economic opportunities: Biomass value addition - charcoal, animal feed and other uses. Ministry of Environment, Forestry and Tourism (MEFT)/GIZ.
[4] Ministry of Agriculture, Water and Forestry/GIZ, 2017. Animal Feed from Namibian Encroacher Bush. MAWF/GIZ Support to De-Bushing Project.
[5] National Rangeland Management Policy (NRMP), 2019. Reviving Namibia's Livestock Industry. Regenerative Livestock Production. Trend, Key Profit Drivers, Case Studies and Recommendations. NRMP Best Practice Strategy Document (Revised edition from 2012 NRMPS).
[6] International Federation of Organic Agriculture Movements (IFOAM), 2019. The IFOAM NORMS for Organic Production and Processing (Edited version of the IFOAM Norms 2014)
[7] Namibian Organic Association, 2012. Namibian Organic Production Manual for Livestock, Horticulture and Crops.
[8] National Organic Program (NOP), 2023. Organic Production and Handling Requirements. Livestock feed. 7 CFR Part 205 Subpart C (up to date as of 3/13/2023)
[9] Namibian Livestock Identification and Traceability System (NamLits)is a largely automated online platform to ensure livestock producers in the commercial farming area of Namibia (south of the veterinary cordon fence) comply with all regulations pertaining to livestock farming, with a particular emphasis on compliance to export regulations. Namlits is operated by the Meat Board of Namibia and managed by the Department of Veterinary Services.

About the Namibian Organic Association (NOA)

NOA is a membership-based association established in 2009 by a group of dynamic farmers and consumers with the common interest of developing the organic sector in Namibia.

About the Knowledge Hub for Organic Agriculture in Southern Africa (KHSA)

KHSA is part of the project Knowledge Centre for Organic Agriculture in Africa (KCOA), a collaborative country-led partnership funded by the German Federal Ministry of Economic Cooperation and Development (BMZ) and implemented by the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) and non-governmental organisations. The project aims to scale up adoption of organic farming practices through five knowledge hubs in Africa. In the Southern African Knowledge Hub (KHSA), project activities are focused in Zambia, in Namibia (led by the Namibia Nature Foundation and NOA), and in South Africa and Malawi. For more information contact the KHSA Project Manager for Namibia: noa@nnf.org.na.

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