



If left unattended especially in warm weather the condition progresses into open wound, maggot infestation and even to the extent of losing the hoof

Pg. 3



revive yak farming and reinstate aged old tradition, through sustainable rangeland management practice have being implemented

Pg. 5

365/2014

Successful control of four-year-old lameness in animals at Calf Rearing Centre, Wangkha

By RB Gurung, Sangay Tenzin, Puspa Maya Sharma, Kelzang Lhamo, Tshewang Dema and Kinzang Dukpa, National Centre for Animal Health, Serbithang, Department of Livestock, Sangay Rinchen, Regional Livestock Development Centre, Tsimasham, Department of Livestock, Bijay Raj Rai and Sangay, Calf Rearing Centre, Wangkha, Department of Livestock



Cattle during an exhibition

Have you ever imagined the ordeal in taking care of a lame cow? A lame cow with tremendous amount of pain and not able to carry its own weight or walk normally. It would be beyond anyone's imagination especially when it comes to taking care of not one but 41 such cows all-round the year. The condition was aggravated by secondary bacterial infection and fly strike leading to unpleasant sight of maggot wound. The management had to

"a thorough examination of animals during procurement is of paramount importance to avoid such outbreak in future."

allocate a considerable amount of time to tend these sick animals. This was the ordeal that Calf Rearing Centre (CRC), Wangkha had to go through for last 4 years until recently. But it is not any more. It is a history now. A team from the National Centre for Animal Health, Serbithang led

Cont. on page 2

Cont. from page 1 : Lameness in animals



Preparation of foot bath and spray solution



knapsack sprayer used for foot spray



Foot spraying of affected animal



Reconstituted antibiotic

by Dr RB Gurung recently probed into the issue. The disease that caused lameness in animals at the Centre was identified as Papillomatous Digital Dermatitis (PDD), a spirochete infection. A comprehensive control programme was developed and implemented that included effective foot bath, foot spray and antibiotic therapy. All the animals responded very well to the control strategy and dramatically recovered. The affected animals are up on their legs and regained normal gait. Apart from controlling this disease the team was also successful in addressing animal welfare issues. Control of this disease had greatly reduced burden on management at the Centre.

Clinical manifestation of PDD in cows

Typical Papillomatous Digital Dermatitis in bovines is clinically manifested by severe dermatitis of skins around the digits and above the coronary band, predominantly seen around the dew claws; usually affects the hind feet; papillomatous growth of wart-like tissues at the affected areas; keratosis; cracking of skin at the coronary band and foul smelling affected tissues. The affected animals exhibit lameness with typical toe-tip walking gait and considerable amount of pain. If left unattended especially in warm weather the condition progresses into open wound, maggot infestation and even to the extent of losing the hoof.

Diagnosis and differential diagnosis

The clinical manifestation of lameness in the animals of CRC Wangkha was unequivocally characteristic of Papillomatous Digital Dermatitis caused by spirochete organism. The most common species involved are *Treponema brennaborensis*, *Treponema pedis* and *Treponema phagedenis*. The disease is also known by other names such as hairy foot warts, digital warts, strawberry foot or raspberry heel. Differential diagnosis was performed based on comparing clinical signs of other similar diseases and laboratory analysis of samples.

Control strategy

Due to the extent of the severity of the

lameness and animal welfare issue, there was an immediate need to reduce the suffering in the whole population. A two-pronged control strategy: individual as well as herd level strategy was designed and implemented with the aim to bring the situation under control as quickly as possible. The individual level intervention was the use of parenteral antibiotics and foot spray with appropriate foot disinfectant. Additionally, as a herd level intervention the whole herd was given daily foot bath with appropriate foot bath solution. The images of control strategy implemented for about a week are shown in the Figure 1.

Comparison of lesions before and after the intervention

The lesions started to regress soon after the initiation of control strategy. Wart like-growth started to fall off four days post beginning of control strategy (antibiotic + foot bathing + foot spray). Over the period of one month, the lesions completely regressed in all 41 animals. The animals were able to walk normally. The images of comparative lesion before and after intervention are presented in Figure 2. The blood parameters that were altered during infection were also normalised after the intervention.

Conclusion

The persistent lameness at CRC is successfully controlled and also addressed animal welfare issues. Over a period of one month time post treatment PDD lesions disappeared from all 41 animals. The disease may have been initially introduced into the Centre through infected animal(s) procured and further disseminated to other herd mates. By the mandate of CRC, the Centre has high probability of multiplying infection and distribute to other parts of the country not only PDD but many other cattle diseases. Therefore, a thorough examination of animals during procurement is of paramount importance to avoid such outbreak in future.

Cont. on page 3

Cont. from page 2 :Lameness in animals

Additionally, since *Treponema* is a soil borne spirochete, the management has to keep keen eyes on reoccurrence of this condition at the Centre. With the experience gained from the current outbreak and implementation of control measures the management is expected to address the situation should there be any such reoccurrence in future.

Maintenance of Log of Activities by every individual staff

As per letter no. RCSC/PPD-40/2014/175 dated 11th July 2014 of the Royal Civil Service Commission, this is to inform all that we are hereby required to maintain daily record of all activities of the day for every individual staff from the positions chief and below which must be certified by the immediate supervisors on weekly basis.

As required by RCSC, kindly encourage your subordinates to immediately start maintaining the log of activities daily and properly as per the given format attached herewith.

Looking forward to your continued cooperation.

Visit www.moaf.gov.bt

-HRD

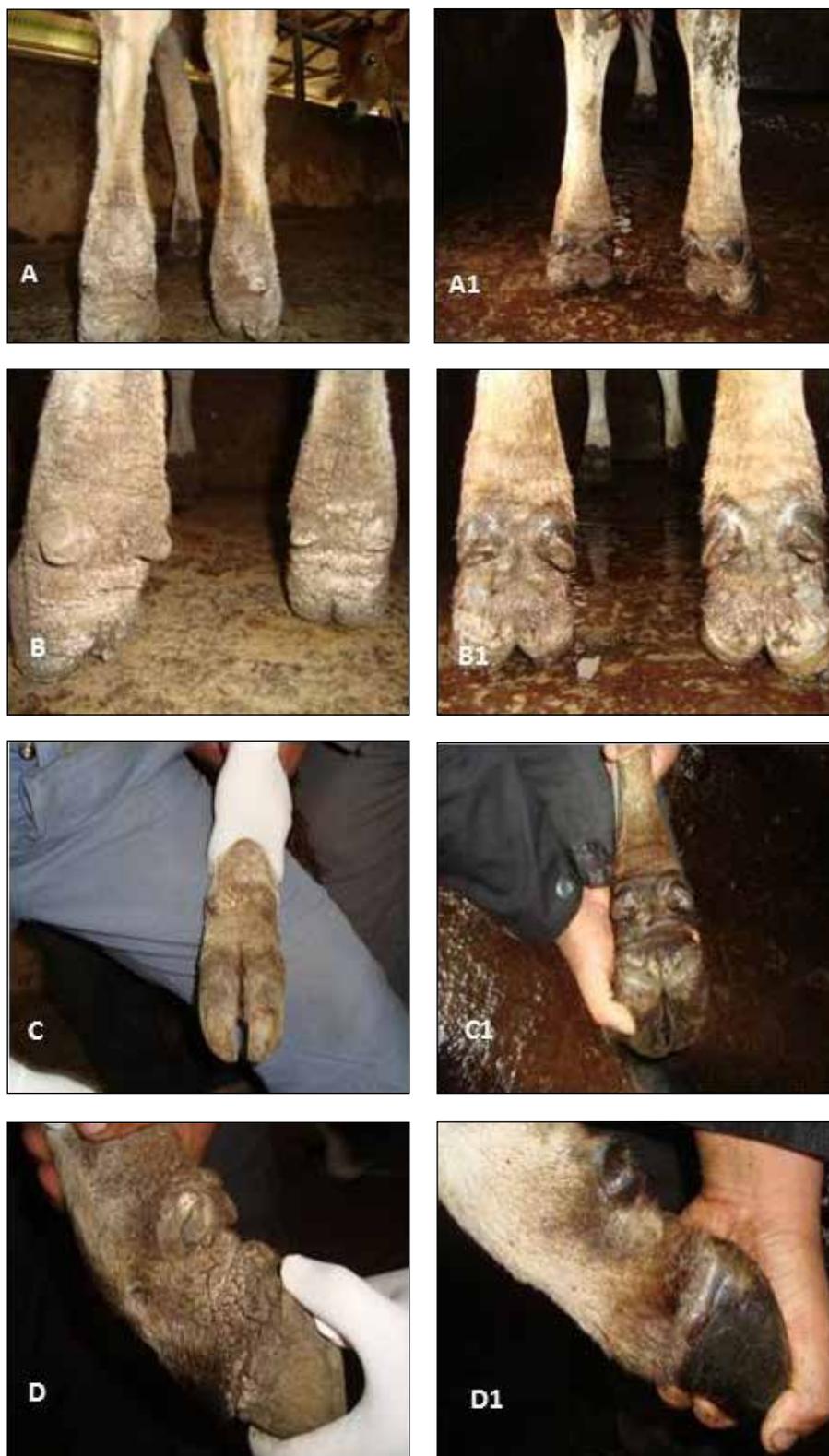


Figure 2: Images showing infected and recovered feet. Images on upper panel (A, B, C and D) are of infected feet and the corresponding images on lower panel (A1, B1, C1 and D1) are of recovered feet of same animal after intervention.



Gearing towards reviving aged old tradition – Yak Farming in Tang

By Pema Wangdrak and Wangchuk, NCAN, Bumthang

Yak farming is one of the main farming activities of the highland communities in northern Dzongkhags for decades. In the similar way, the community of Narut under Tang Geog in Bumthang Dzongkhag had been rearing the yaks in the past. The yak herders in those days used the natural pasture (Tsamdro) at Namgong and Phokpai for grazing their yaks.

However, yaks rearing have been abandoned by the same community in decade ago since they have shifted from yak herding to dairy farming. The natural pastures within the rangeland areas in Namgong were left fallow due to discontinuation of yak herding and that trends have attributed towards dwindling of yak population in the northern Dzongkhags such as in case of Bumthang Dzongkhag.

So in order to revive yak farming and reinstate aged old tradition, restoration and reviving of degraded rangelands through sustainable rangeland management practice have being implemented starting from May, 2014 in Tang Geog by National Centre for Animal Nutrition (NCAN), Bumthang, Department of Livestock under the project title “Securing Rangeland Soil Carbon through Community Yak Herding within Thrimshingla National Park” with the fund support from Bhutan Trust Fund for Environment and Conservation (BTFC).

Field assessment including herd migration practise in the past was carried out. The activities to revive degraded rangelands at Namgong and Tevethang were finalized in the 1st week of April, 2014 involving all key stakeholders (Narut community, Tang Geog Administration and NCAN).

Project duration to revive degraded rangelands for establishment of Community Yak Farm is 3 years (2014-2016). Fifty acres of degraded rangelands in Tang Geog (Dordhey 10 acres, Namgong 5 acres and Tevethang 35 acres) were brought under sustainable rangeland management practise in the

first half year (till June, 2014). The community of Narut who was the immediate beneficiary has executed the field works such as rangelands fencing & clearing unwanted shrubs under the supervision of technical staff from Rangeland unit, NCAN. Fencing work for 100 acres of degraded rangelands will be completed by end of December 2014 as part of reviving degraded rangeland (Tsamdro) to set up grazing area for community yak farm.

To kick-start the Community Yak Farm, 50 yaks will be procured within June, 2015 and stationed at various grazing locations that have been identified and revived. The community yak herd will follow the same migration pattern as practice by the Narut yak herders in the past. The grazing areas include, Dungmethang, Namgong, Phokpai and Tevethang at Tang geog.

Eight households from Narut community was benefited financially as they could earn additional cash income through implementation of field work such as fencing rangelands (Tsamdro) including transportation of fencing materials. After the establishment of community yak farm, community members will be expected to benefit in

number of ways. Firstly, they will able to produce yak cheese, chugo and butter for marketing. Secondly it will provide employment opportunity for the community members. There is also scope for the community yaks to engage in promoting eco-tourism within the Narut-Namgong trekking routes.

As of June 2014, Nu 2.283 million was approved and spent to revive the degraded rangelands at Namgong and Tevethang which is the main requirement for reinstating yak farming in Tang geog.

Therefore, with the implementation of such important program, it will contribute towards revitalizing aged old tradition and at same time bring economic and environmental benefit to Narut community in the long run.



Rangeland area at Dordhey



Narut community members engaged in rangeland fencing

Message from H.E Lyonpo Yeshey Dorji Minister for Agriculture and Forests on International Tiger Day

In the last 100 years, we have lost over 97% of all wild tigers to indiscriminate poaching, habitat loss and human-wildlife conflict. The tiger population in 1913 was estimated to be about 100,000, which is now drastically reduced to only about 3,200 tigers in only 13 countries*. Bhutan is one of these fortunate countries where this magnificent animal can still be found roaming the forests all the way from the warm southern regions to the cold alpine forests. This great fortune of our nation was bestowed upon the present and future generations by our visionary Monarchs, who continue to symbolize the epitome of Conservation leadership for Bhutan and the Global community.

July 29 is observed as the International Tiger Day with the objective to raise awareness and garner public support for global tiger conservation. For Bhutan, we have identified “The Need to Count”, as our national theme to highlight the importance of determining tiger population so that we can design and implement effective interventions. To achieve this objective, the Department of Forests and Park Services (DoFPS), MoAF, with financial and technical support from the World Bank and WWF launched the first ever nationwide tiger population survey in February 2014.

The survey results will provide important information on the population density of tigers, their distribution pattern and habitat status in the country. Local people’s perception and knowledge of tigers which are considered useful for tiger conservation are also being documented to mitigate human wildlife conflicts

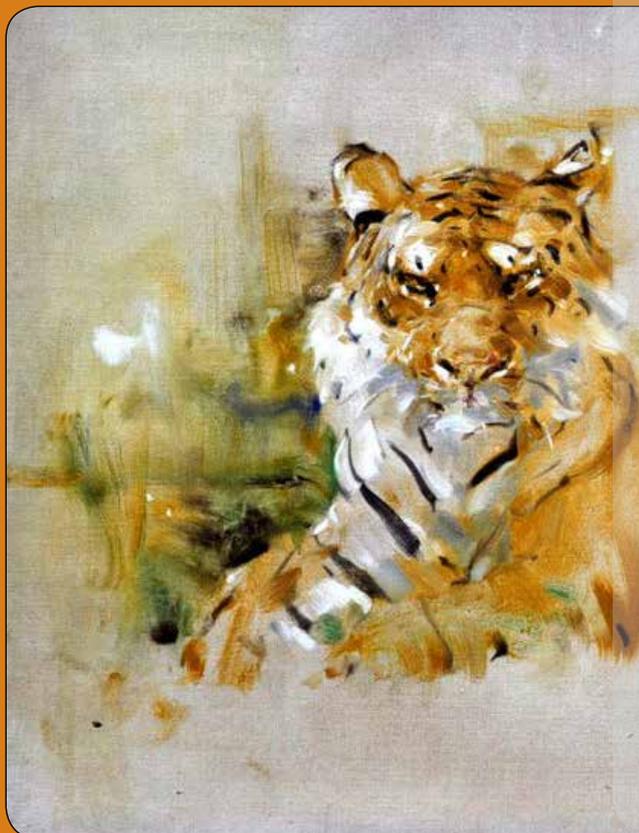
It is also the first-ever survey solely conducted by a team of Bhutanese professionals, which not only demonstrates our national capacity but the commitment to carry out such a mammoth scientific exploration.

We need to ensure that this magnificent animal not only survive but thrive in our forests because they are not only ecologically significant but are important cultural and religious symbols of Bhutan. Ecologically, it stands at the top of the food chain, and its presence in the forest symbolizes the well-being of other species. For all these reasons, the survival of the tiger is vital for the healthy co-existence of every Bhutanese and nature, a unique harmony, that defines the essence of our GNH philosophy.

This is our opportunity to save wild tigers and the ecological riches they and the landscapes they inhabit represent. Despite serious loss, Bhutan is fortunate to have extensive forest areas with over 51 percent of the country identified as protected areas with well-connected biological corridors.

To further control poaching and illicit trading the DoFPS are continuing to strengthen the regulatory frameworks and enhancing the scientific and socio economic understanding of the dynamics of Tiger conservation and management.

With continued efforts from the government, global partners and the communities, we are confident that we will not only ensure that our tigers survive but continue to thrive so that our children and grandchildren will see them as real living legends and not in history books or as wall paintings. As custodians of our environmental heritage, we must all come together to protect and cherish the amazing natural wonders of our nation.





Leisure

Eggs available at CFM at Nu. 260 per tray

Eggs are available at the Centenary Farmers' Market at 260 per crate despite the market conditions favouring a price hike.

It will be available for sale from 31/07/1014 onwards at the temporary auction yard (CFM) and Bhutan Cooperative shop (B Coop shop) opposite Taj Tashi at Nu. 260/tray. For further information kindly contact: 17819575/02-322909.

Sudoku Puzzle

Fill in the grid with digits in such a manner that every row, every column and every 3x3 box accommodates the digits 1-9, without repeating any. Answer in the next issue

9			8			6	5	
			7			3	9	
		4			2			
		5				1	4	
7	2						6	8
	4	8				9		
			2			8		
	7	1			6			
	9	2			3			5

Annual literary competition for SAP

Council for RNR Research of Bhutan (CoRRB), MoAF and Department of School Education (DSE), MoE has been organizing the Annual literary competition for SAP schools every year. Principals and teachers of SAP member schools are requested to encourage the students to participate. This year's literary topics are as under;

1. Pre-Pry Level (PP-III) – Posters: Draw Vegetables that you grow in your School garden.
2. Primary level (IV-VI) – Essay: Difference between healthy and unhealthy food
3. Lower Secondary level (VII-VIII) – Essay: Learning to farm to feed ourselves
4. Middle Secondary Level (IX-X) – Essay: No Pain, No Grain
5. Higher Secondary Level (XI-XII) – Essay: Socio-economic importance of food and nutrition security
6. FATs – Concept paper on: “Family Farming: Feeding the World, Caring for the Earth” (Theme for WFD 2014)

Where and when to send: The entries should reach at CoRRB Office latest by 20th September 2014, either by post, hand post, internet attachment or, even by fax at (322504).

For more information: contact Mr. Anjal Subba, anjalsubba@gmail.com or, contact at 16902410, or, Mr. Desang Dorji, desangdek@gmail.com (17604439).

Winners will be awarded on 16th October 2013, coinciding with World Food Day Celebration.

-CoRRB

MAGIP interventions bringing smiles on the faces of dairy farmers of Orong and Wooling villages, Samdrup Jongkhar

By Cheten Chidup, LPS, Thinley Rapten, DLO & Dr N.B.Tamang, DoL

Dairy development initiatives through Market Access and Growth Intensification Project(MAGIP) are steadily showing tangible results in improving income and livelihoods of farming communities in eastern Bhutan. Dairy development in all six dzongkhags supported by the project is doing fine. Among them dairy farmers groups of Orong and Wooling at Samdrup Jongkhar is doing exceptionally well.

Orong dairy group has 50 farmers contributing about minimum of 500 liters/day. Milk is collected from different collection shed by power tiller and sold to Samdrup Jongkhar by milk van procured by the group themselves. Milk is sold at Nu 35/litre where as farm gate paid to farmer is Nu20, and a Nu 15 is kept as group saving and vehicle maintenance cost. However, there is standby butter and cheese processing equipment if fresh milk cannot be sold because of unavoidable reasons.

Monthly income of the farmers group exceeds Nu. 50,000, which is substantial. The group is setting up a new Milk Processing Unit(MPU) at the centre of Orong geog to benefit both upper and lower villages of the geog. A budget of Nu. 0.5

"I am convinced that livestock farming with improved cattle, proper housing, and product marketing can make a difference in the life of my fellow villagers. Hence as a Gup (Head Man) of the Orong Geog. I am supporting construction of MPU through Geog Budget.

Gup, Orong Geog

Million is spared by Gup through geog development fund.

The Wooling Dairy Group is another dairy group in about 5 km away from Orong village formed in 2011. It consists of 54 active members dominated by females. Since then the group has been operating successfully in milk product processing and marketing. Daily milk collection is about 300 litres. Initially farmers processed milk into butter and cheese and 100 litres of milk was sold to Orong dairy group at Nu. 28/litre which was inevitable because of lack of transportation facilities.

But this constraint is speedily removed with the arrival of new milk marketing van (Mahindra Bolero) very recently; the group now started marketing fresh milk in the open markets of Samdrup Jongkhar town and to neighboring Indian border town.





ToT Refresher course on Cooperatives' capacity building modules at Paro

By Binai Lama, SNV

A training of trainers workshop was held at Paro (21-25th July) for the stakeholders involved in capacity building of farmer groups and cooperatives. The participants were from Regional Agriculture Marketing and Cooperative Office, Mongar (RAMCO); Department of Agricultural Marketing and Cooperatives, Thimphu; Food Corporation of Bhutan, Phuntsholing; and Rural Development Training Centre, Zhemgang.

The training workshop was aimed to enrich the understanding of the participants in terms of standardized delivery of various capacity building modules. The module references for the training were Awareness and Generalities, Governance, Agricultural Marketing, Leadership, Business plan development and Record and Book-keeping in farmers group and cooperatives. Through the module orientation, it is expected to set the standardized delivery methods of building the capacity of the farmers in different parts of the kingdom.

The training workshop also created a forum for various stake holders to interact on various field experiences in building the farmers' capacity and in exchanging information. One of the key objectives of the training was to broaden

the capacity of the participants in the context of advising, training, mentoring and coaching of farmers groups and cooperatives in the perspective of strengthening the overall performance of the farmers groups and cooperatives.

The training focused on the module usage and delivery techniques to the farmers groups and cooperatives. The facilitation skills of managing groups, creating playful learning, initiating discussions etc. were imparted to the participants. On the specific module content, the techniques of introducing the units, additional content information, and the techniques of reviewing and assessing the learning impacts were delivered.

The participants felt a standardized training of this sort was timely in the context of review of the performance of the already existing farmers groups and cooperatives. For the training, most of the participants felt that the duration of the training was too short (1 day for 1 module; Agricultural marketing, Business plan development and record and book keeping and 2 modules in 1 day for Governance and awareness and generalities). Most of the participants felt that the business plan development and record & book keeping modules appeared technical and that it requires at

least a day extra.

The participants also expressed that such trainings were a good platform for agreeing on standardization of delivery of trainings to the farmers groups and cooperatives amongst the stake holders such as RDT, RAMCO, DAMC & FCB.

The trainers observed that, the participants were conversant with the module content, have developed the capacity for delivery of the module, review and assessment of the impact of the trainings to farmers groups and cooperatives. Overall, the feedbacks from the trainers were excellent in the context of the participants' enthusiasm towards building their own capacities and improving their work place performance and efficiency.

SNV supported this ToT under the RAMCO assignment (MAGIP project), with trainer facilitators from the Institute of Management Studies, Thimphu.

**Submit articles for
RNR Newsletter
(August) to**

tandindorji@moaf.gov.bt

theme: farm mechanisation

If undelivered please return to:

Information and Communication Services (ICS)
Ministry of Agriculture and Forests
Post Box: 1095, Thimphu-Bhutan
Tel(PABX): 02-323765/321142/322855
Fax: 02-324520
Email: ics@moaf.gov.bt
Website: www.moaf.gov.bt

To
