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Written & Edited: Quazi M Emdadul Huque, Ph.D; ED, Lal Teer Livestock Assisted by Md. Shahjahan, Ph.D; AGM/SSO-Breeding, Lal Teer Livestock.

লাল তীর লাইভস্টক ডেভেলপমেন্ট (বিডি) লিমিটেড

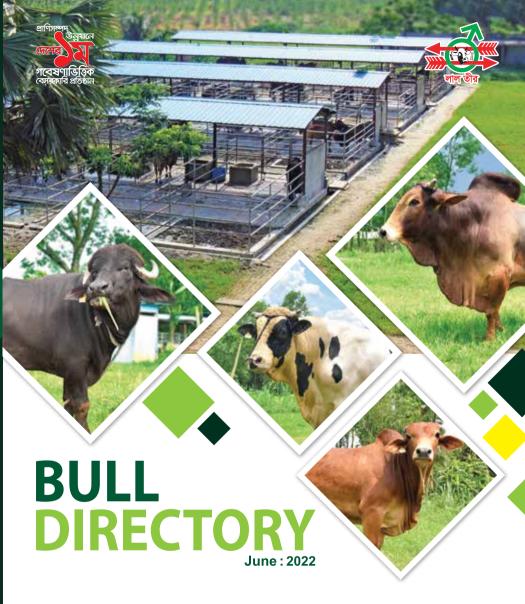
বেসরকারি খাতে বাংলাদেশের প্রথম গবেষনাভিত্তিক DLS ও ISO 9001:2015 সনদ প্রাপ্ত গুরু ও মহিষের হিমায়িত সিমেন উৎপাদনকারী প্রতিষ্ঠান

বুল স্টেশন, গবেষণা ও উনুয়ন খামার, উথুরা, ভালুকা, ময়মনসিংহ। ময়মনসিংহ: ০১৭৩০০০৪৯৪৮, বগুড়া: ০১৭৩০০০৪৮৩১ যশোর: ০১৭৩০০০৪৮৩৫, চট্টগ্রাম: ০১৭৩০০০৪৮৩৪

www.multimodebd.com

A concern of Multimade group

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Lal Teer Livestock Development (BD) Ltd. DLS Reg. no. 02 is the first genetic-science based private company of the country. The company established Breeding Farm, Bull Stations, Production, Processing and Marketing of Semen located at Uthara, Bhaluka, Mymensingh. The Company already producing semen of different Breeds & Blood Level of Cattle and Buffaloes and supplying throughout the country.

Since 2010 our scientists have been working relentlessly with the cooperation of the foreign scientists by using modern technology to develop the Cattle & Buffalo Breed, Lal Teer is committed to ensure the increases of milk and meat production, small holder's standard of living, improve food and nutritional security in the country.



Genome Sequencing Buffalo 1st time in the World



Prosperous Progeny of Lal Teer Livestock





Mymensingh: 01730004948, Bogura: 01730004831, Jashore: 01730004835, Chattogram: 01730004834







Message from Chairman

Lal Teer Livestock Development (BD) Limited (LTLDB) is the first Bangladeshi Research and Development (R & D) based "Livestock breeding company" in the private sector. The company was established in 2010 at the bank of Jamuna, Tangail and moved to Bhaluka, Mymensingh, in 2013. From the very inception LTLDB has been working for the improvement of Buffalo and Cattle breed throughout the country. Our R&D includes genetic farm (breeding farm), bull stations, fodder bank and modern semen processing laboratory, as well as improvement of feed, animal health and management technique for smallholder animal farmers including women entrepreneurs. The Bull Station is fully equipped with live bull management and semen

production and distribution of frozen semen of dairy, beef cattle and buffaloes which is quality certified by ISO (ISO 9001:2015).

Lal Teer Livestock Development Limited is a registered (Reg. no. 02) company for semen production from own bull station, processing and marketing by the regulatory authority of Bangladesh Government, Department of Livestock Services (DLS), Ministry of Fisheries and Livestock.

Water Buffalo (Bubalus bubalis) is one of the most important animal resources for milk and meat production in South Asia and South East Asia. Unfortunately, no visible effort has been made to improve the buffalo breeds for increasing the meat and milk productivity suitable to climate of Bangladesh. In India (70%) and Pakistan (68%), the lion share of their milk production comes from buffalo. Bangladesh is lagging far behind on this. Keeping this in mind, LTLDB has been working diligently to bring such an important resource (buffalo) in the mainstream of milk and meat production. India had exported more than US\$ 8.0 Billion worth of Buffalo meat in 2018.

The research activities of LTLDB include an all out research on genetics characterization of buffalo breed type available in Bangladesh. For the very first time a private sector enterprise had undertaken such scientific activities to improve the livestock breed.

Our Genomic Research includes sequencing, bioinformatics analysis to identify the clear concept on Gene Expression mechanism and Gene Expression regulation factors. This knowledge can make clear the gene expression pathway of any particular gene and possible way of interruption. This knowledge may be useful on more productivity increase. As part of our genomic research to improve the productivity of the local buffalo, we finish the decoding of water buffalo genome under whole genome sequencing project in collaboration with BGI, China with the approval of Department of Livestock Services (DLS). We hope this decoding of buffalo genome will be proven to be a milestone for improving the productivity with follow up research. In relation to this a research article has been published in the volume 9, issue 6 of world famous international journal "Ecology and Evaluation" and in the Wiley Online Library on April 2019 edition, where you will find our valued publication on Buffalo genome sequencing.

Lal Teer Livestock Development (BD) Limited (LTLDB) is currently engaged in development, production, processing, storage, packaging, marketing and distribution of all kinds of frozen semen (Cattle & Buffalo) in line with the development program of the Government of Bangladesh. The company has thus established itself as a truly integrated breeding company in the country. The LTLDB scientist's team is continually engaged in R & D work to improve Cattle & Buffalo breed adopted in the sub-tropical climate of the country. The company believe that the LTLDB's improved breed for milk and beef will reach to the door step of Small Farmers of urban & rural area of Bangladesh, which has been a great service to fueling in improving their financial outcome and livelihood improvement. On the other hand, this is certainly a complement to the overall economy of the country and for food and nutrition security of Bangladesh.

Lal Teer Livestock Dev. (BD) LTD.

Multimode Group





Forward

Livestock is a key component of the agricultural economy of Bangladesh. Despite its modest share of overall GDP, livestock serves an essential role as a source about 44% of high-quality protein in food supply chain, employment generation, export earning, and provision of food security. Livestock resources play an important role in the sustenance of landless people, livelihood options for the rural poor families and are potentially important for poverty reduction and generate year round employment. About 70% of the rural households are rearing livestock-which generate about 20% of employment and sharing employment is about 50%.

As Bangladesh grows in population and income, projected demand for livestock products (milk and meat) is expected to grow dramatically, to maintain steady supply to the market, the production must be doubled in 2022. Cattle in Bangladesh are approximately 25-35 percent smaller than Indian cattle and produce less than a third of cow's milk in Pakistan. Average milk and meat production of cattle and buffalo are lower per unit production than that of India and Pakistan. Majority of the national milk deficit is fulfilled by the imported powder milk and shortage of meat by the live animals supplied from across the border. Dairy and meat sector business links have a deficient supply chain and insufficient coordination. Most of the farmers have very limited information about feed requirement and quality feed utilization, fodder production, merit of the breeds available in dairy including buffalo and meat breeds, cost of input services, vaccine, diseases and veterinary services, housing and management and efficiency of per unit production cost. Milk market and supply chain from production to table lack coordination.

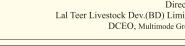
The Lal Teer Livestock Development (BD) Limited (LTLDB) is the first research and development (R & D) based breeding company, a sister concern of Lal Teer Seed Limited, with the government registration no.02 and ISO 9001-2015 certified in Bangladesh. The primary commitment of the company is to provide farmers with high genetic merited semen acclimatized in local climate for their dairy cattle and buffalo and its meat improvement. With this goal, the company started their R & D in 2010 with a team of different partners that resulted locally developed and adopted breeding bull for semen production and started semen marketing business in 2016. This Bull directory accommodated Lal Teer R & D resulted promising bulls only. With the quality genetic merit of LTLDB developed bull; LTLDB started to improve genetic quality of existing cattle and buffalo stocks of the farmers. LTLDB is increasing the coverage of Artificial Insemination (AI) by undertaking continuous AI training in collaboration with the Bangladesh Agricultural University, Mymensingh. Other activities of the company are to increase fodder self-sufficiency of the farmers and efforts to provide technical service support of the related stakeholders. Quality high merit bulls' development under research and development activities of the breeding program of LTLDB is a continuous process. The quality semen production and transfer to the farmers is essential to orient the farmers at the center of the milk and meat sufficiency of the country. Before transferring product, quality is tested in the laboratory and farmers field.

The ultimate goal is to develop sustainable Bangladeshi breeds adapted in the climate of Bangladesh with the highest efficiency of milk and meat production to attain self-sufficiency of these products in the country for national food security. The company looks forward to making farmers at the center of breed improvement with the other partners and stakeholders.

> Tabith M Awal Director Lal Teer Livestock Dev.(BD) Limited DCEO, Multimode Group









Lal Teer Livestock Development (BD) Limited

Anchor Tower, 108, Bir Uttam CR Dutta Road, Dhaka - 1205

Background

The Lal Teer Livestock Development (BD) Limited (LTL) is a leading company providing genetically superior livestock breeds and technical support for genetic improvement potential to the farmers' network. It belonging to the Multimode Group of companies started functioning since the end of 2010. Its core agricultural sister concern is the Lal Teer Seed Limited (LTSL), which is an international standard Bangladeshi seed company having all requisites of a modern seed company with distribution channel throughout the country and abroad. With the background of vast experiences in agricultural business, the company has extended its business based on research and development to semen production of farm animals: dairy cattle; dairy buffalo and beef with an integration of disease diagnosis, feed and nutrition, fodder production, milk and milk products and bio-fertilizer. LTL is currently operating four main components: (i) research and development with their own genetics farm, (ii) Bull station and frozen semen products processing, (iii) developing Artificial Insemination service provider (AISP) and (iv) the business component for products (semen) and its distribution that is focusing on meetings the needs of farmers as customers for Cattle & Buffalo development. The company experiences as one of the first research and development based farm animal breeding company in Bangladesh. Its success is attributed to its thorough concentration and significant investment in aspects of quality genetics, feed and nutrition with the support of fodder cutting distribution, health and technology transfer.

Vision

Our vision is to build livestock farmers to way out and promote and sustain the growth of dairy and meat industry.

Mission

Our mission is to grow and supply of multi-species high merited genetic of food animal to develop chain relationship to customers through innovative and outstanding services, technology, nutrition & health and management.

Objectives

The main purpose of the LTL is to genetic improvement of Dairy and Beef cattle and Buffalo for business entrepreneur's development in the country. The activities of the program are to increase quality semen production from locally produced environmentally acclimatized supported excellent bull with superior genetic combination at desired blood levels for sustainable higher milk and meat industry and its distribution/marketing for Artificial Insemination for increasing milk and meat to cater future growing dairy industry throughout Bangladesh. This will integrate establishment of grasses by making available seeds of tropically adopted fodder and better nutrition through formulated feed in collaboration of existing seed production program of Lal Teer Seed Limited. The program will be integrated with sex semen and embryo production and marketing, cattle feed production, cattle and buffalo fattening for meat, quality heifer production for starting dairy farm, biogas, organic fertilizer, milk value chain and milk products marketing and meat processing. All these programs are based on Nucleus Breeding Farm and community based livestock farmers locally stationed called as Livestock Growth Centre.

The livestock research and development center of Lal Teer Livestock Development (BD) Limited is maintaining a nucleus genetic farm for dairy cattle, beef cattle, buffalo, link up with community based contract growing farms (Linked Farms) for breed improvement and development program for quality bull production; a separate breeding bull station of cattle and buffalo frozen semen production and marketing and sales of frozen semen, grass seed and nutrition program for crossbred animals and animal health services for contract growers and other farmers. The company will produce value added premier products of milk, meat and bio-fertilizer, for sustainability of the intergraded production system. To increase the productivity and sustainability in animal agriculture, technological changes including skill manpower development is the target. The long term expected outcome is the creation of climatically adopted dairy, beef and buffalo breed for national livestock improvement which will significantly contribute in the food security of the rapid increasing human needs of animal protein in terms of milk and meat in Bangladesh. This climate adopted dairy, beef and buffalo breed improvement program is significantly contributing in income generation activities, poverty reduction and livelihood improvement of smallholder farmers in the country and creating greater scope for the innovative changes for quality protein supply for mental development and reducing the rough body structure. This will also in lead the business dairy cattle, dairy buffalo and beef production along with non-farm enterprise development rural Bangladesh and create in rural employment in Bangladesh.

The LTL has a regular well equipped Training Program at her Training Centre jointly in collaboration with Bangladesh Agricultural University for developing Artificial Insemination Service Provider (AISP, Technician) to create self employed cadre which is directly involved with Dairy, Milk and meat industry development of the country and it improves the livelihood of dairy beef farmers as well as self employed youth. In the mean time, LTL developed about 835 self employed service provider those contributing much in rural economy.

The LTL also established well organized frozen semen sales, marketing and distribution network throughout the country with marketing of high merited Dairy & Beef frozen semen to increase number of quality cattle and buffalo for decreasing the shortage of milk and meat gap of the country.

Innovative Aspects:

To meet the growing demand for milk and milk products and meat, the livestock farmers in Bangladesh require improved breeds of cattle and buffalo with a higher productivity potential. In addition the cattle and buffalo farmers need to have improved feed and better access to animal health services in order to realize the production potential of the improved cattle and buffalo breeds. The LTL is the first private sector initiative in Bangladesh that is contributing to develop improved dairy and beef cattle and buffalo breeds for the Bangladesh livestock sector. The frozen merited semen of the cattle and buffalo breeds is distributed and marketed through a network of AISP who will also market seeds of carefully selected forage crops and combine the AI-services and forage seed sales with advisory services on improved animal health, forage crop cultivation and nutrition for buffalos, dairy and beef cattle.

The main Innovations that LTL will introduce:

LTL will leads to the development of improved Bangladeshi breeds for dairy, beef and buffalo farming. Semen is collected from LTL developed high merited acclimatized bulls at the stations. The program will continue with the onward crossing based on a scientific approach with the ultimate aim to develop new synthesis breeds for dairy, beef and buffalo farming. These new breeds will combine the genetic potential for high productivity of foreign breeds and the resilience of local breeds to produce under the prevailing climatic conditions of Bangladesh. The ultimate impact on the productivity and economic viability of the various ruminant sub-sectors in Bangladesh will thus be significantly larger than with the existing cross-breeding approaches and not only limited to the dairy sub-sector.

The semen for AI-services produced by LTL will be sexed so that livestock farmers can plan their herd development with a high degree of probability. Beef farmers prefer to have bull calves, whereas dairy farmers prefer to have female calves. Through this program the supply of sexed semen will become available in the Bangladeshi livestock sector for the first time. The promotion and marketing of seeds of improved forage crops such as Napier, Zamboo, Sudan grass, alfaalfa, and triticale and fodder maize, in combination with cattle breeding services is highly complementary and novel in its approach. Commercial sales and distribution of forage seed has been developed by LTL and is currently extended in Bangladesh. The LTL is marketed these seeds as part of a comprehensive cattle and buffalo improvement program. Farmers are given advice on doing farming forage crop cultivation and animal health, feeding program and nutrition issues.

With the exception of semen for AI-services in the dairy sector, the program introduces calves care and services that are new in livestock sector of Bangladesh. The local climate based semen for dairy and beef cattle improvement is eventually a different quality of genetics adopted in this climate from the existing supplies chain of the breeding program.

The LTL has started Livestock insurances program through PROGATI INSURANCE LMITED company for their genetic farm's cattle. LTL is extended health insurance program for their AISP. LTL is interested to develop insurance in linked farmers. A start-up support is essential to introduce Livestock Insurance. Animal recording system in linked farmers is under strengthening process.

Activities:

- Promote genetic improvement of Dairy cattle, Dairy buffalo and Beef cattle enterprises in the country,
- Proven/tested Bull Production.
- High merited semen sales under linked farmers through contract farming as well as to the Dairy and Buffalo farmers network,
- Quality Dairy, Beef and Dairy Buffalo semen production that adapted local environment,
- Self employed AISP, (AI Technician) training facilitation to enhance the tool of Genetic Improvement of Dairy & Beef.
- Premier dairy value added products marketing,
- Livestock insurance,
- Dairy, Beef and Buffalo synthetic Breed development
- Improved Heifer and Calf production and marketing,
- Animal Feeds and Fodder solution
- Dairy Disease Diagnosis and Treatment solution
- Bio-Gas & Organic Fertilizer

Contact:email:lalteer.livstock@multimodebd.com

Face book: com/Lalteer.livestock Web: www.lalteerlivestock.com

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Abbreviation

■ ID No : Identification Number

HF : Holstein Friesian

■ SL : Sahiwal

■ RCC: Red Chittagong Cattle

MED : Mediterranean

■ NR : Nili-Ravi

G-2 : Generation -2

■ LPC : Local Pabna Cattle

LO : Local



হলস্টিন ফ্রিজিয়ান HOLSTEIN FRIESIAN

জাত পরিচিতি

হলস্টিন ফ্রিজিয়ান গরুর মূল উৎপব্রিস্থল নেদারল্যান্ডস। আমেরিকা, অস্ট্রেলিয়া, কানাডা ও নিউজিল্যান্ডসহ পৃথিবীর অনেক দেশেই এ জাতটি দেখা যায়। বাংলাদেশসহ বিশ্বের অন্যান্য দেশে হলস্টিন ফ্রিজিয়ান গরু দুধের জাত হিসাবে পরিচিত। বাংলাদেশের অধিকাংশ সংকর জাতের গরু হলস্টিন ফ্রিজিয়ান জাতের।

বৈশিষ্ট্য

 ফ্রিজিয়ান গরু সাধারণত সাদা ও কালো বংয়ের হয়, তবে কালো বংয়ের পরিমাণ বেশিও হতে পারে

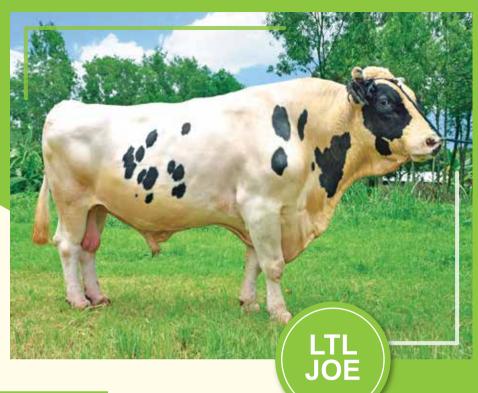
- গাভীর ওজন আনুমানিক ৫৪৫ কেজি এবং যাঁড়ের ওজন সাধারণত ৮১৮ কেজি বা তারও বেশি
- * ওলান বড় এবং বাট সুগঠিত

লাল তীরের হলস্টিন ফ্রিজিয়ানের বৈশিষ্ট্য

- * সিমেন/বাছুর এর কৌলিক মান নিজস্ব গবেষণা খামারে পরীক্ষিত
- * গবেষণা ও উনুয়ন খামারে দেশীয় আবহাওয়ায় সহনশীল প্রমানিত
- * সিমেন বাহিত রোগ মুক্ত এবং গবেষণা ও উনুয়ন খামারে পরীক্ষিত
- * অল্প বয়সে বাচ্চা দেয় এবং বাচুরের মৃত্যর হার কম
- * বাণিজ্যিক ভাবে দুগ্ধ খামারের জন্য অত্যন্ত উপযোগী
- * মূল জাত আমেরিকা/কানাডা হতে আমদানিকৃত এবং অধিক দুধ দেয়

उर्देशाम्ब

- * ফ্রিজিয়ান জাতের গাভী এক বিয়ানে ৬,৫৪৫ থেকে ১৯,৯৯৫ লিটার দুধ দেয়
- দৈনিক গড় ওজন বৃদ্ধির হার বেশি এবং মোটাতাজাকরশে এ জাতের এঁড়ে বাছুর উপযোগী



SL-NO- 01

Bull Name : LTL JOE

Breed: HOLSTEIN FRIESIAN

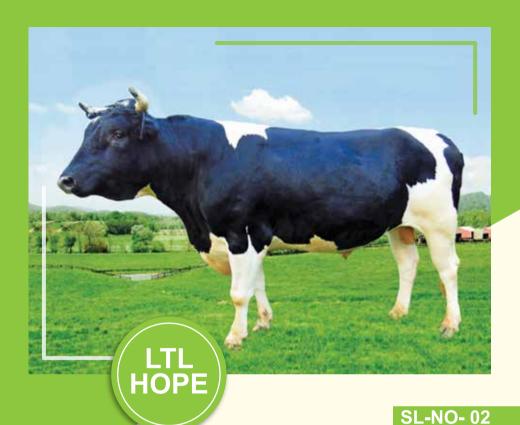
Genotype : HF 87.5 % ID No. : 15HO0040 Date of Birth : 02.02.2013

Birth Weight : 52 Kg Breed Type : Dairy

Color : Black & White

Source : R & D Farm; Lal Teer

Breeder: Lal Teer Livestock Development (BD) Limited



Bull Name : LTL HOPE

Breed : HOLSTEIN FRIESIAN

Genotype : HF 87.5 % ID No. : 17HO0107 Date of Birth : 12.06.2016

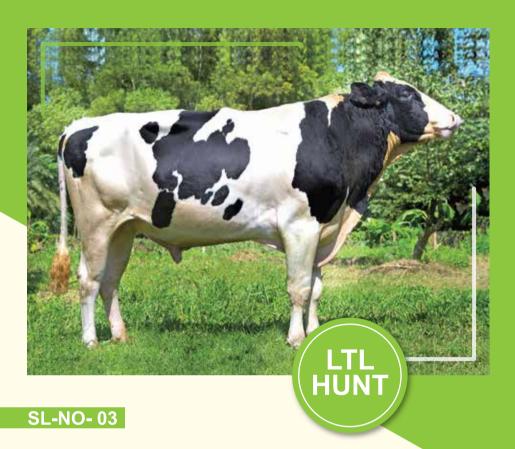
Birth Weight : 29 Kg Breed Type : Dairy

Color : Black & White

Source : R & D Farm; Lal Teer

Breeder: Lal Teer Livestock Development (BD) Limited

Lal Teer Livestock 06



Bull Name : LTL HUNT

Breed: HOLSTEIN FRIESIAN

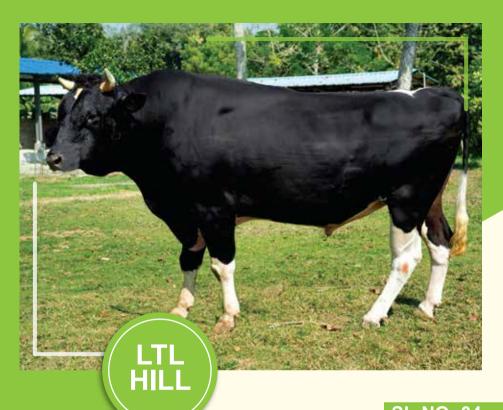
Genotype : HF 87.5 % ID No. : 18HO0118 Date of Birth : 05.01.2017

Birth Weight : 45 Kg Breed Type : Dairy

Color : Black & White

Source : R & D Farm; Lal Teer

Breeder: Lal Teer Livestock Development (BD) Limited



SL-NO- 04

Bull Name : LTL HILL

Breed: HOLSTEIN FRIESIAN

Genotype : HF 87.5 % ID No. : 17HO0087 Date of Birth : 24.02.2017

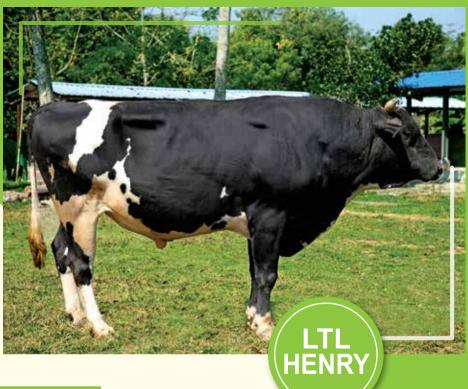
Birth Weight : 33 Kg Breed Type : Dairy

Color : Black & White

Source : R & D Farm; Lal Teer

Breeder: Lal Teer Livestock Development (BD) Limited

Lal Teer Livestock 08



SL-NO- 05

Bull Name : LTL HENRY

Breed: HOLSTEIN FRIESIAN

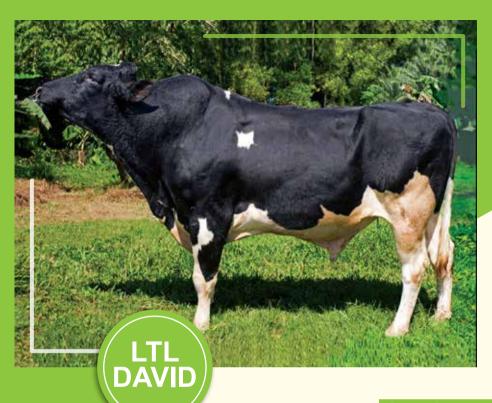
Genotype : HF 87.5 % ID No. : 17HO0110 Date of Birth : 17.11.2017

Birth Weight : 34 Kg
Breed Type : Dairy

Color : Black & White

Source : R & D Farm; Lal Teer

Breeder: Lal Teer Livestock Development (BD) Limited



SL-NO- 06

Bull Name : LTL DAVID

Breed: HOLSTEIN FRIESIAN

Genotype : HF 75 %
ID No. : 15HO0045
Date of Birth : 15.10.2014

Birth Weight : 35 Kg Breed Type : Dairy

Color : Black & White

Source : R & D Farm; Lal Teer

Breeder: Lal Teer Livestock Development (BD) Limited

Lal Teer Livestock 10