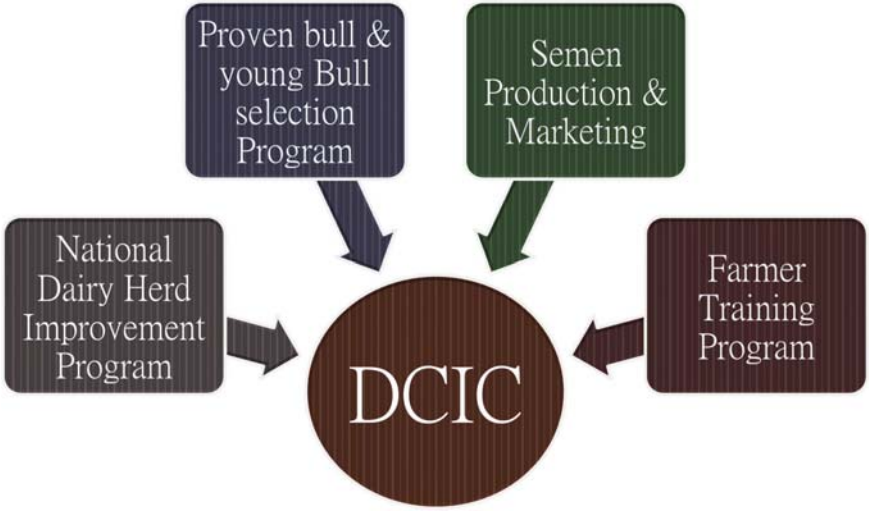
Networking System for Dairy Herd Improvement in Korea

Kwang Jin, Han
General manager

Dairy Cattle Genetic Improvement Center
National Agricultural Cooperatives Federation, Korea

+82-31-929-1004(☎), +82-31-929-1090(fax)
kjhan@nonghyup.com, www.dcic.co.kr

Main function of DCIC



The past (1970)

- Total no. of farm : 3,126
- Total no. of cow : 23,624
- Total milk production : 50,833 tons
- Daily milk yield per cow : 10kgs

The present (2015)

Total no. of farm	• No. 3,126 ⇒ No. 5,498
Total no. of cow	• No. 23,624 ⇒ No. 411,342
Total milk production	• 50,833ton ⇒ 2,168,157ton
Daily yield per cow	• 10Kg ⇒ 32.1kg
Annual farm yield	• 16ton ⇒ 394ton
Dairy cow in NDHI	• 10,289kg(305d), 32kg(daily)
Somatic cell count :	• 189 thousand/ml

3rd DHI milk yield level in the world

Over 80% of cows which enrolls in NDHI program earns 1st grade.

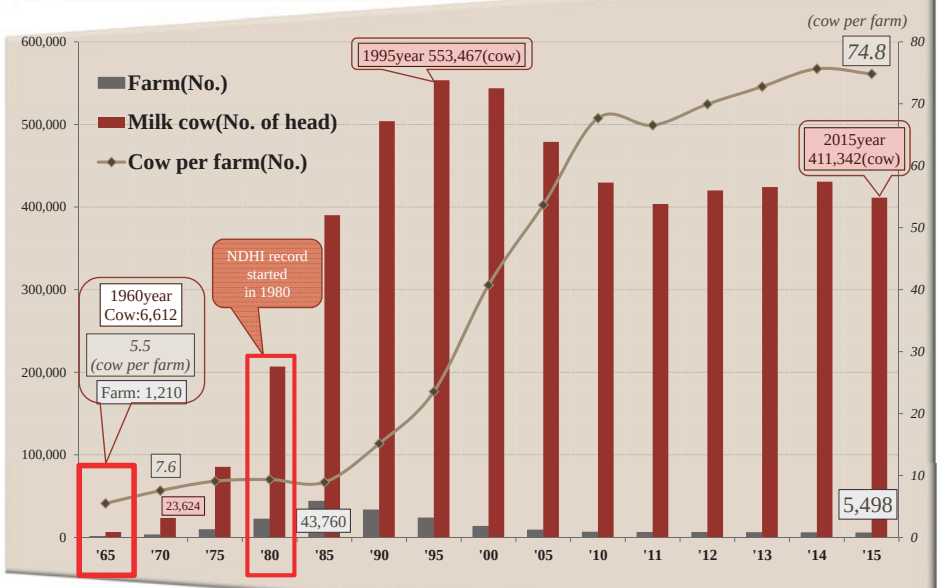
KOREA DAIRY STATISTICS (2015)

- 100% Holstein
- 100% bred AI
- 64% milk recorded
- 100% A4 method
- 2.5 Parity
- 27.8(months) Age of 1st calving
- 465.9(days) Calving interval

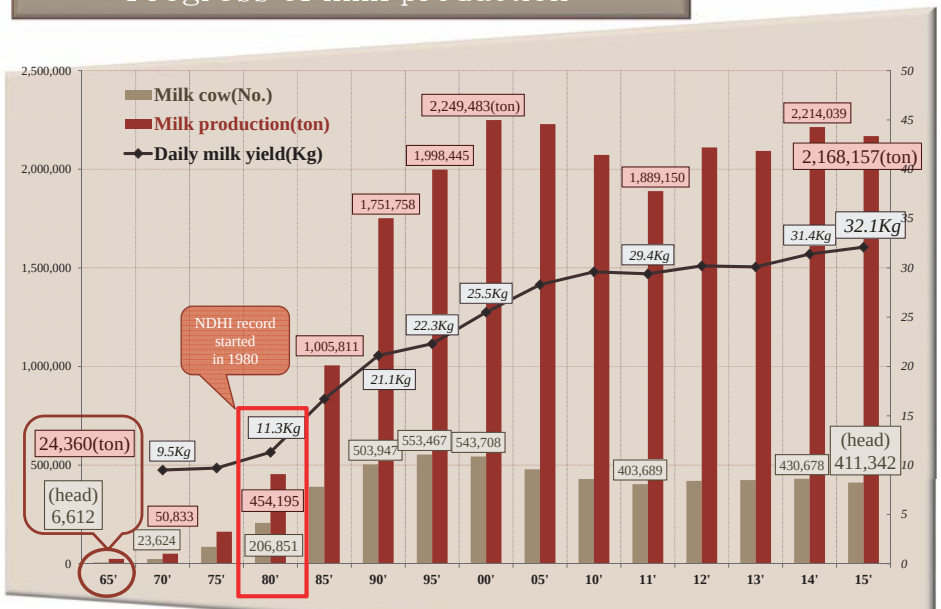
Characteristic of Korean dairy environment

Size	• No. of cows per farm : 75 heads (42 milking cows)
Climate	• Distinctively divided season (spring, summer, fall, winter)
Temp	• Temperature : -20 ~ 35℃ (large variation)
Hum	• Humidity : 80 ~ 90% (in summer)
Feed	• Poor feeding condition(50% of cow feeds is imported from other country)

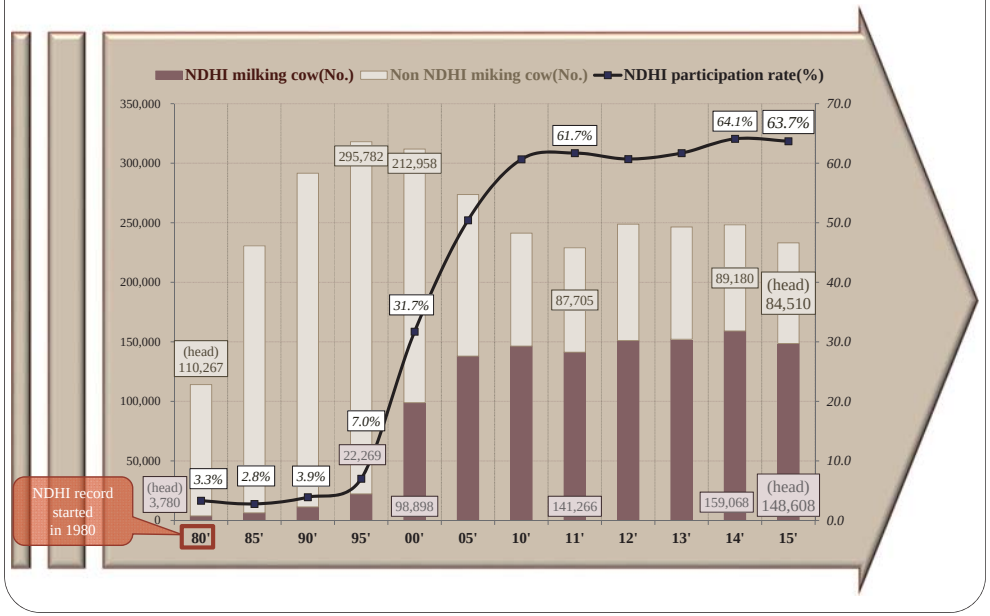
Change of Population in Dairy Cows and Farms



Progress of milk production



Progress by NDHI & Breeding program



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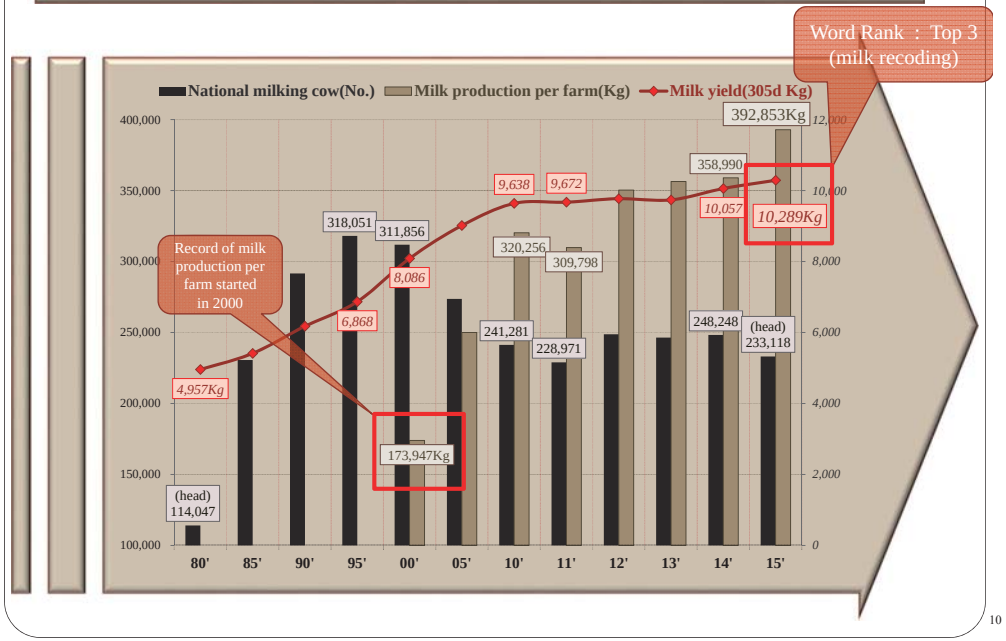
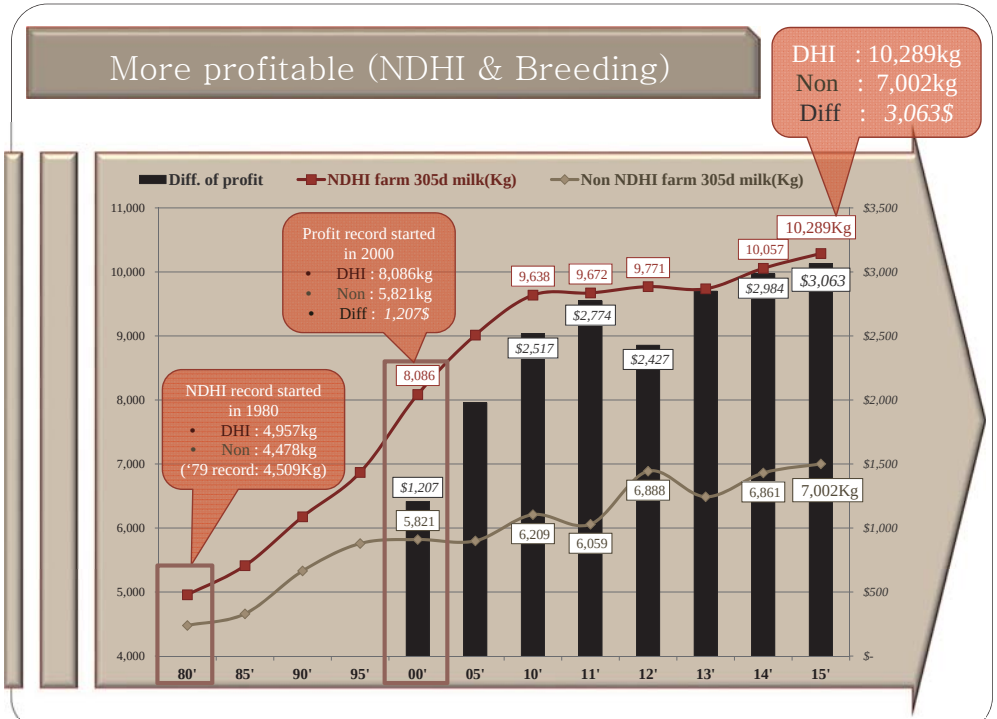
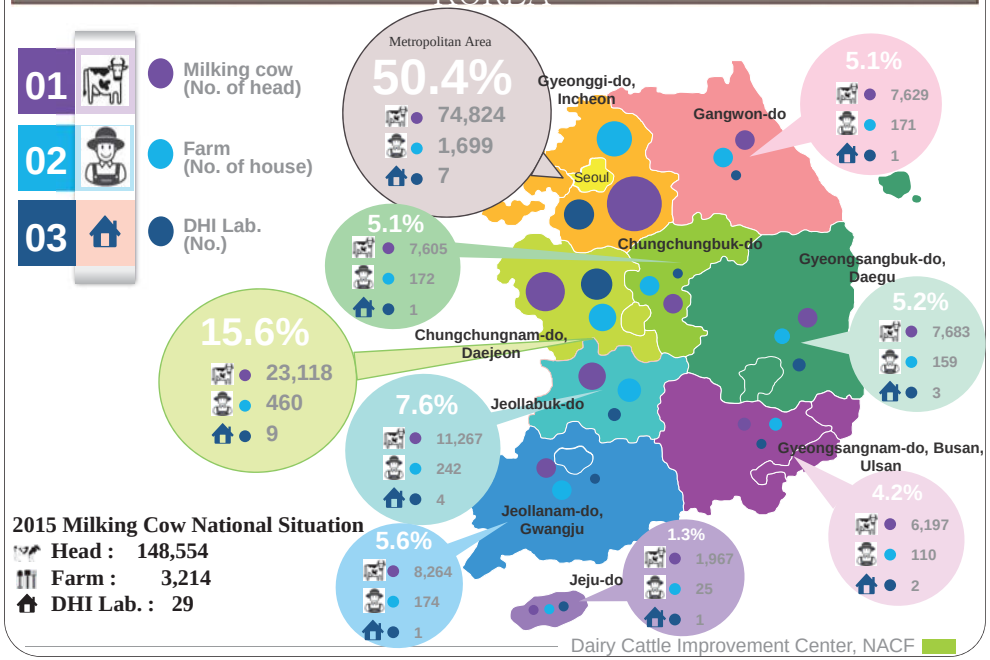


More profitable (NDHI & Breeding)



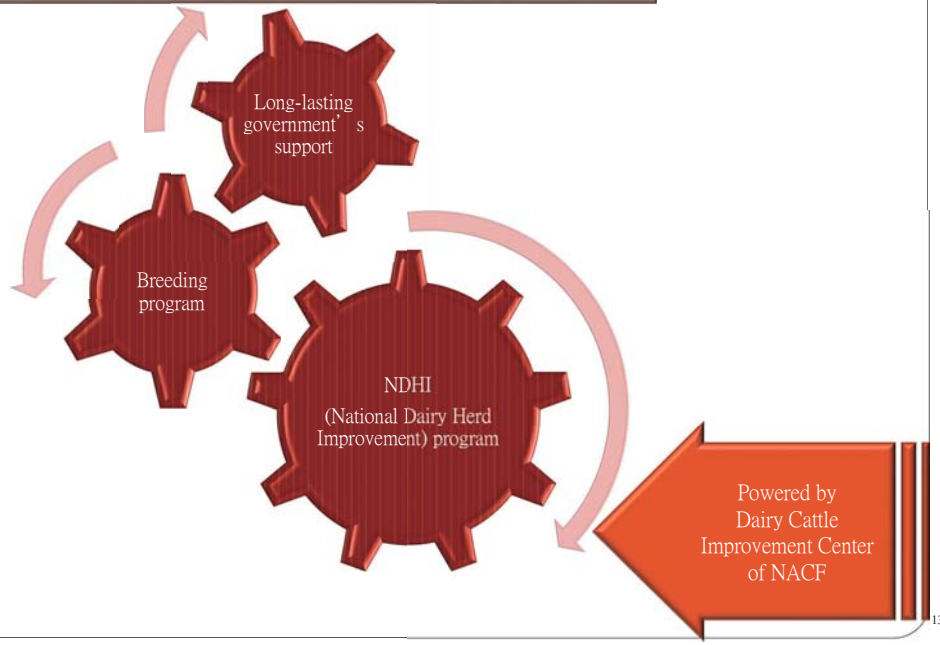
Spread of MILKING COW PRESENT CONDITION IN KOREA



2015 Milking Cow National Situation

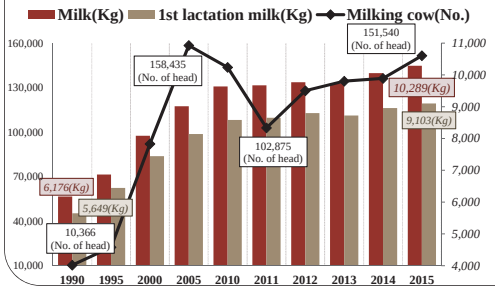
- Head : 148,554
- Farm : 3,214
- DHI Lab. : 29

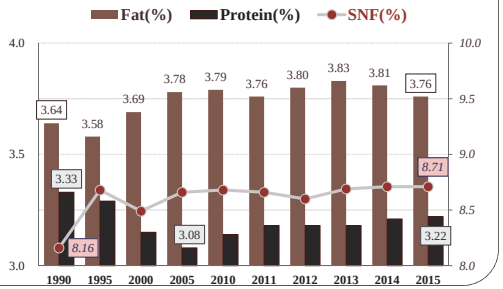
NDHI & Breeding program



Progress of milk recording

year	Milking Cows (No.)	305 yields					Age of 1st calving (months)	Calving Interval (days)
		milk (Kg)	1st lactation milk (Kg)	fat (%)	protein (%)	SNF (%)		
'90	10,366	6,176	5,649	3.64	3.33	8.16	25.6	403.6
'95	22,436	6,868	6,445	3.58	3.29	8.68	26.0	408.6
'00	92,115	8,086	7,445	3.69	3.15	8.49	26.7	429.3
'05	158,435	9,014	8,142	3.78	3.08	8.66	27.4	439.5
'10	143,681	9,638	8,584	3.79	3.14	8.68	27.6	450.0
'11	102,875	9,672	8,652	3.76	3.18	8.66	28.1	451.1
'12	127,916	9,771	8,800	3.80	3.18	8.60	28.3	464.6
'13	134,375	9,737	8,723	3.83	3.18	8.69	28.1	461.8
'14	136,237	10,057	8,959	3.81	3.21	8.71	27.8	464.4
'15	151,540	10,289	9,103	3.76	3.22	8.71	27.8	465.9





History of Korean dairy environment

- Jan, 1962 DCIC founded by NACF
- Sep, 1979 Launch NDHI Program(3 lab, 2,358heads)
- Mar, 1995 Select the first Korean proven bull(Han-Gang)
- Mar, 1999 The First export of Korean Holstein semen(Vietnam)
- May, 2001 Become a member of ICAR, Launch Internet DHI Service
- Feb, 2002 4 cows were recorded 20,000kg milk yield
- Aug, 2004 Launch DHI Services via mobile phone
- Dec, 2007 Certified HACCP dairy farm for the first time in Korea
- Dec, 2010 60% of cows participated NDHI program
- Sep, 2012 DCIC branch and barn in Yeongyang, Gyeongbuk
- Feb, 2013 Participate in INTERBULL evaluation(Conformation)
- Jul, 2014 Export Korean holstein semen to Uganda, Africa

NDHI(National Dairy Herd Improvement) program

<Farm visiting by DHI staff>

Participation

- 3,214 farms, 233,254 cows
- Percentage : 64% of total dairy cows
- 229 DHI staff working for NDHI program (29 local DHI office)

<Data collecting by member' coops>

Milk recording

- DHI staff visited the farms (am/pm once a month)
- Milk yield, reproduction, Feeding, Farm management
- Collect milk samples for analysis(lab work : milk comp, Scc, Mun)

<Analysis of DHI Records>

On-line data process & Service

- Data encoded into DCIC on-line database through web-program.
- Data process & farm service
- DHI budget covered by farmer, government, DCIC and Coops in some case by the local government

NDHI(National Dairy Herd Improvement) Program

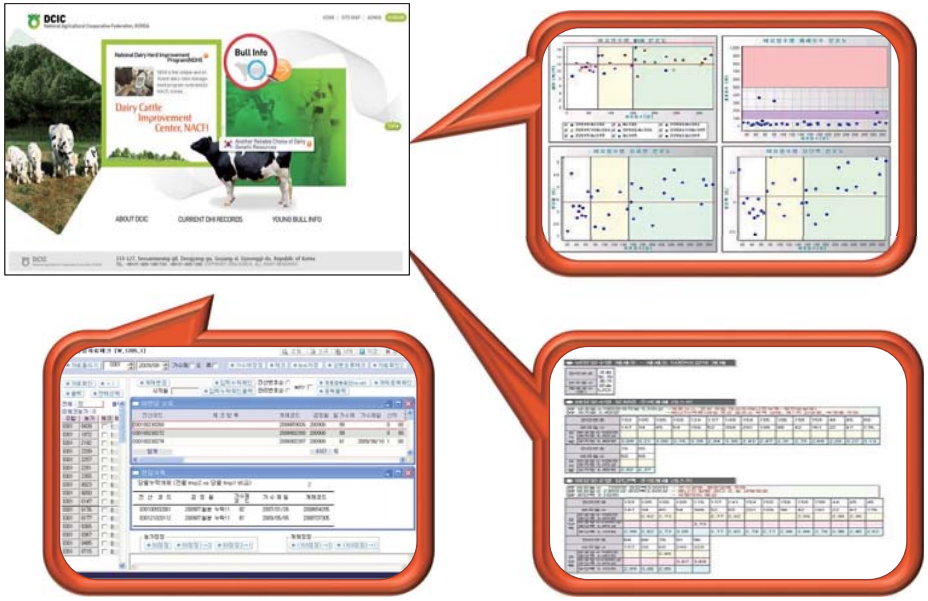
NDHI services

- Mail service : 11 per month
- Web service : 35 (farmer, consultant)
- Mobile-phone service : green-phone

Advantages of NDHI services

- Control of feed intake
- Diagnosis & prevention of cow diseases
- Monitoring reproductive status
- Milk quality control (cf. individual scc)
- Selection of suitable semen for genetic progress

NDHI Web-service(www.dcic.co.kr)



Breeding program (Korean bull selection)

Young Bull production (60 head)

- From elite cow in Korea or Foreign embryo

Progeny test

- 35 head / year
- Young bull semen artificially inseminated to NDHI cow

Genetic evaluation

- The data from daughter which is collected by DCIC on-line system
- Genetically evaluated with other proven bulls including imported semen

Bull selection : 3 ~ 5 head/year

Semen production

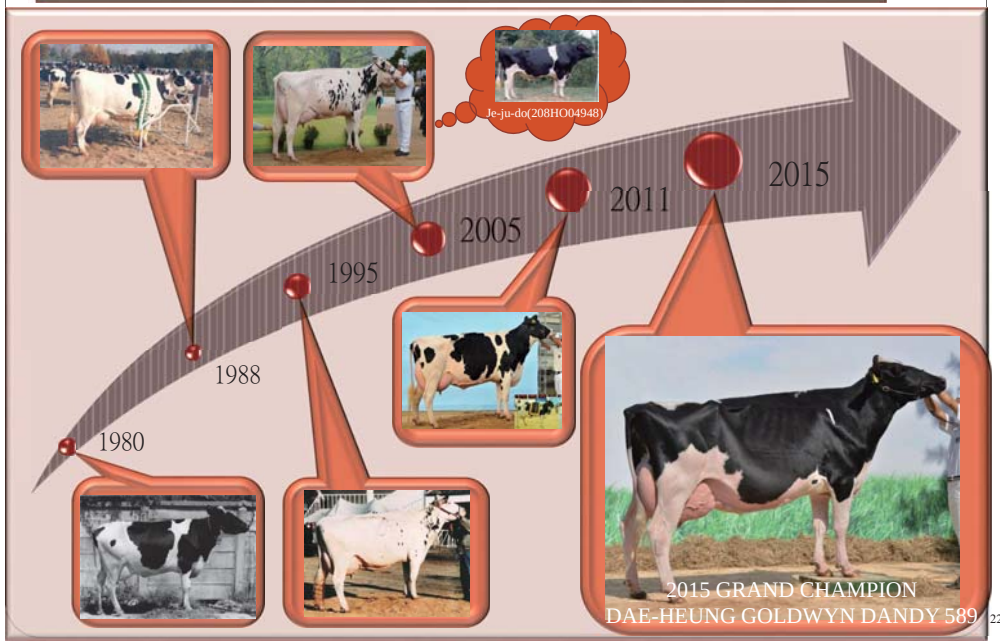
The production of semen is closely controlled and monitored by Government regulations and international standard in terms of their health and sanitary conditions

According to the analysis of 200,000 A.I. data in Korea, the fertility rate of DCIC semen was higher than any other foreign dairy semen results, which included major bovine semen from other country.

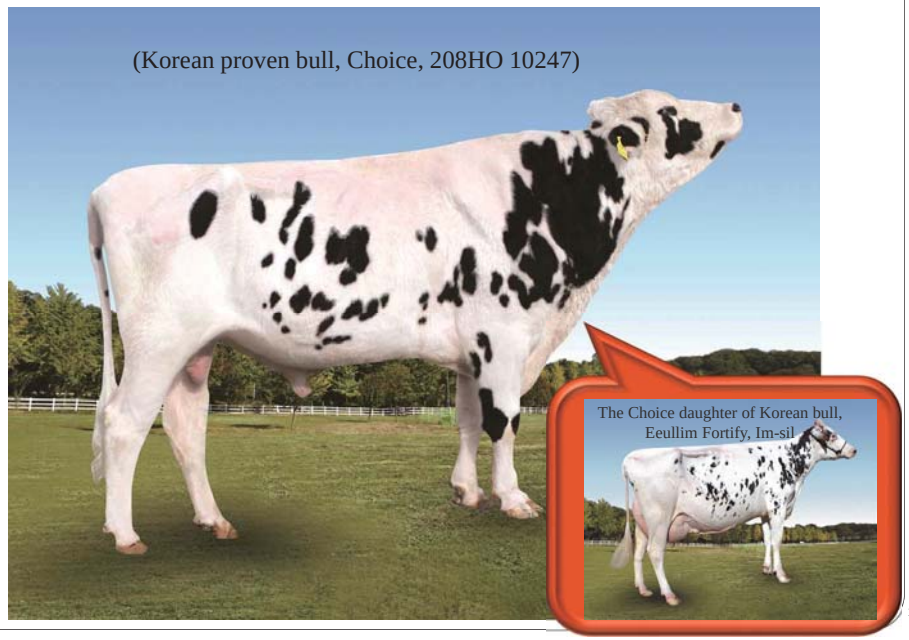
Remarkable records (NDHI)

The highest milk record per lactation	• 21,581kg(305d, 2x),71kg
The highest fat record per lactation	• 8.66%
The highest record of lifetime milk production	• 179,091kg in 7 lactation
The top herd milking average	• 15,675kg (305d, 2x)

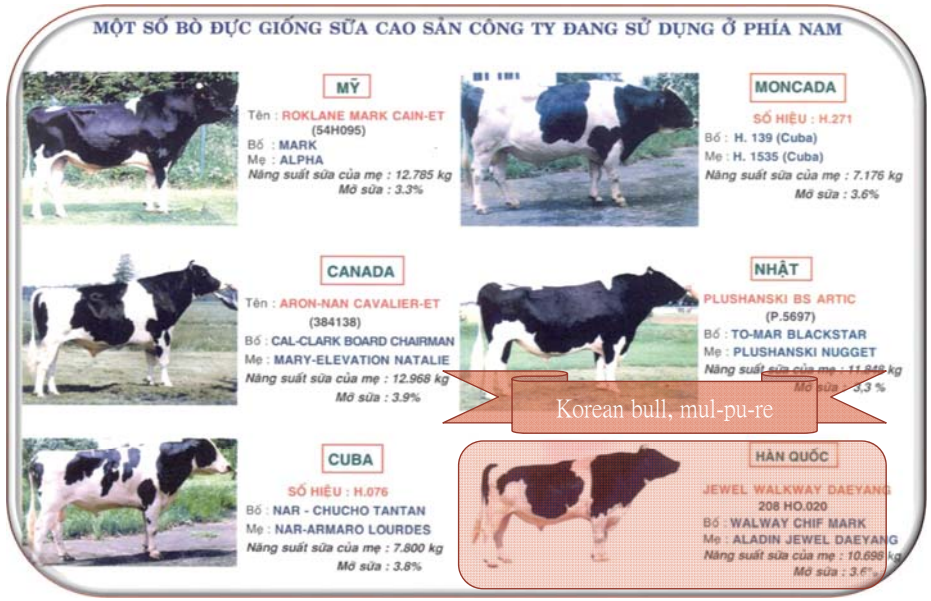
Progress by NDHI & breeding program



2016 Korean Holstein Proven Bull, CHOICE

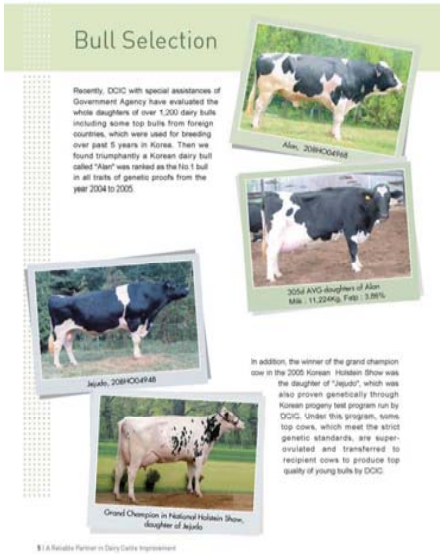


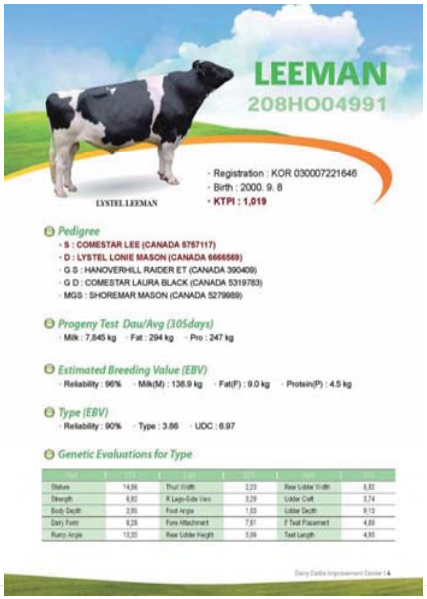
Korean Holstein semen exported to Vietnam



MOU for Cooperation of Dairy Cattle Improvement

Korean Bull





Goal

Our goal is only one : to provide fresh, healthy and abundant milk to humankind through our best dairy cows.

Toward this goal, we are doing our best with farmers and our partners worldwide!

Beyond extreme weather & feeding condition.
More milk, Better cow

Thank you !

Dairy Cattle Improvement Center
NACF, KOREA