

丹麥與臺灣乳牛場使用機器人科技研討會
Smart Dairy Farming with Robots: Demark & Taiwan

臺灣乳牛場縣市分布與牛群規模變化

The Geographical Distribution and Herd Size Trends of Dairy Farms in Taiwan

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2020.10.06

Outline



- 一. **The dairy breeds in Taiwan and their origin**
臺灣乳牛的源起
- 二. **The server organization for the dairy farming household in Taiwan**
台灣乳牛飼養規模的扶持單位
- 三. **The AI technical team**
牛群擴大之生殖技術團隊
- 四. **DHI annual awards for elite cows and dairy farming modernization**
DHI榮譽榜與乳牛場飼養規模現代化
- 五. **Current performance of dairy cattle farm in Taiwan**
目前乳牛飼養規模與乳牛性能

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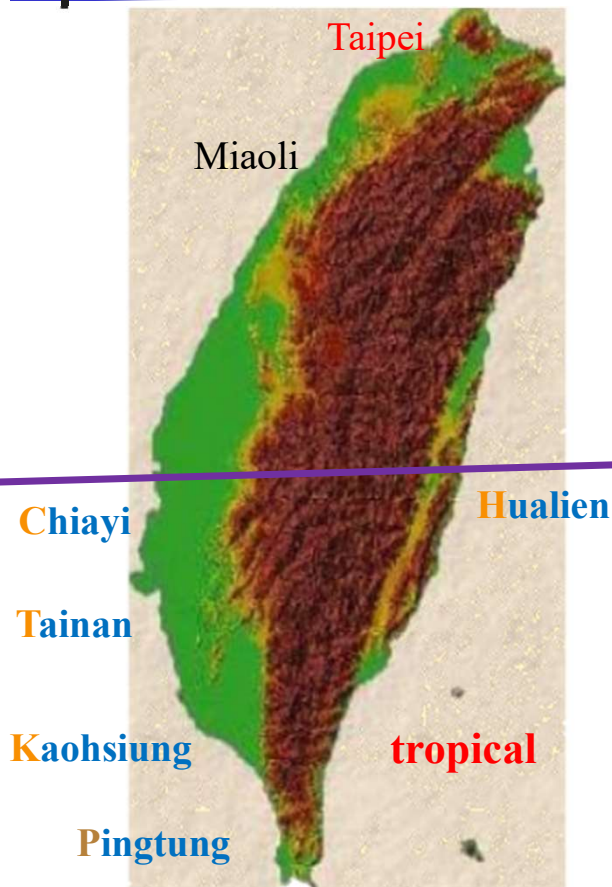
The dairy breeds in Taiwan and their origin 台灣乳牛的源起



Commencing the dairy farming in **1957** Imported animals from foreign country including **Holstein, Jersey, Brown Swiss, Gurnsey, etc.**



The climate challenge of dairy cattle farming



Taiwan is situated at the **tropical and subtropical area** with typical high temperature and humidity **in summer and warm season**, lactation cows are experienced to the **serious heat stress**.

The average temperature is **28°C** (8 to 35°C).
The average relative humidity is **85%** (70 to 99 %).

The performance of Hostein in Taiwan



- Milk yield of purebred Holstein were better than other purebreds and crossbreds.
- Milk quality was best for fresh milk market consumption.
- Purebred Holsteins were recognized as the sole dairy breed in Taiwan.
- The milk productivity of Holstein in Taiwan enhanced.



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The server organization for the dairy farming household in Taiwan
台灣乳牛飼養規模的扶持單位



中華民國乳業協會
Dairy Association
Taiwan, Republic of
China (DAT)

畜產試驗所
Taiwan Livestock
Research Institute
(TLRI)



Production records and milk samples of all individual cows in the DHI enrolled herds were collected and the database was established by **Hsin-ChuBranch**, Taiwan Livestock Research Institute.

「中華民國乳業協會」前身為「臺灣省乳牛事業改進會」，自1955年創立迄今已逾50年歷史。

Dairy Records Processing Center (DRPC)

- Calculating the lactation milk yield totals
- Standardizing milk yield (305-2X-ME)
- Generating reports and transmit data to Server of LRI



- Milk yield weighing and **sampling of all individual cows.**
- Collected data will be processed and generate information to **provide the farmers** can know the performance of cows.
- Form a **national dairy database.**



參加DHI計畫的母牛，在泌乳期間每月實施測定一日的泌乳量，換算成305天標準產量，來衡量乳牛之泌乳能力。

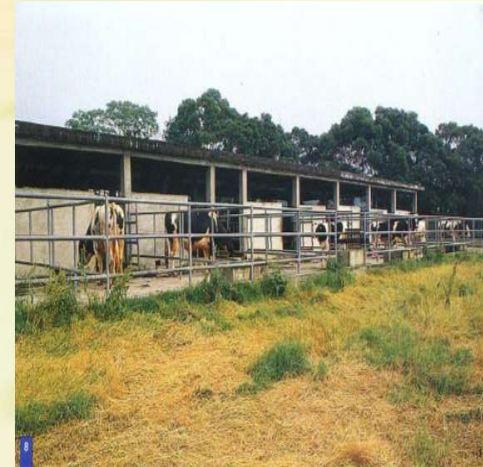
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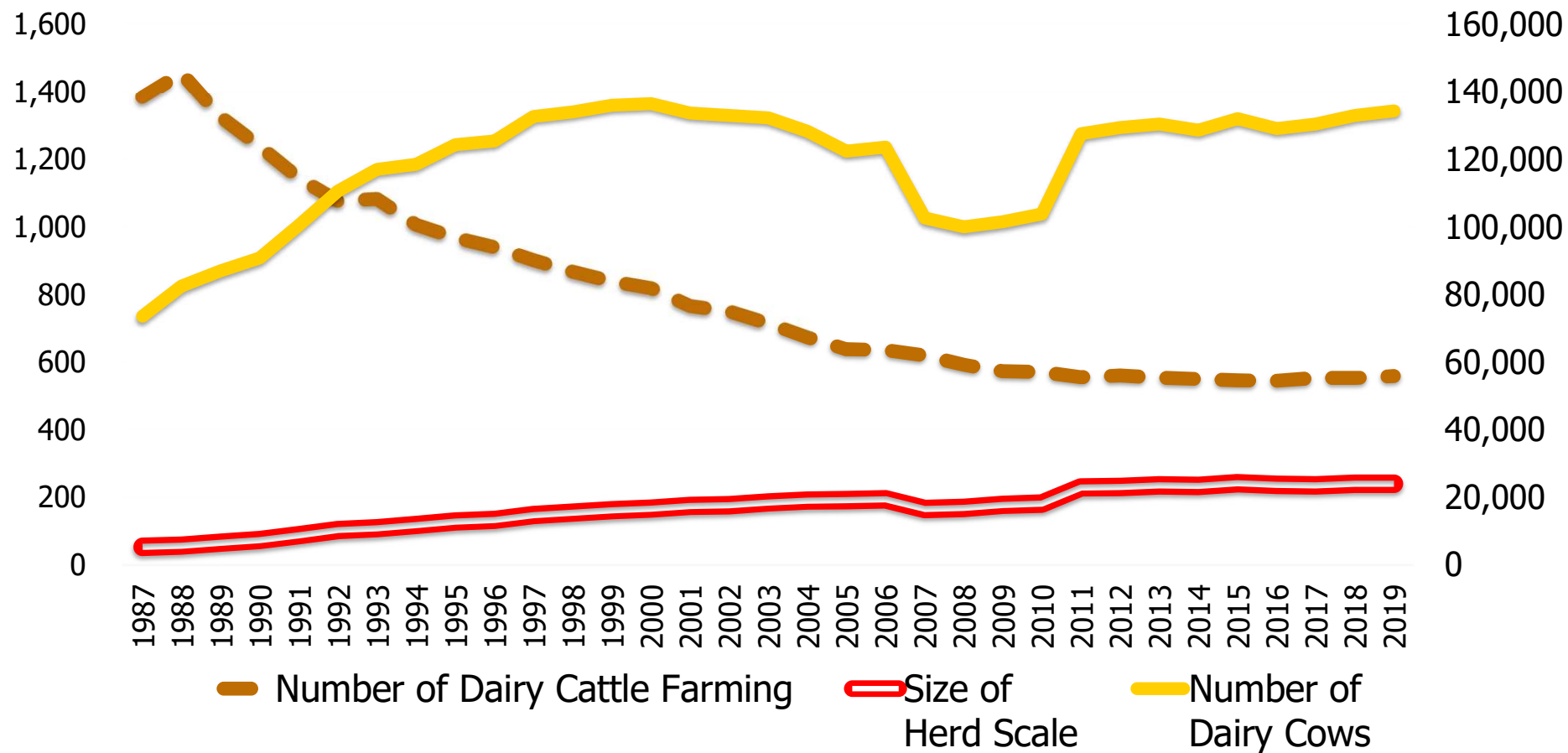
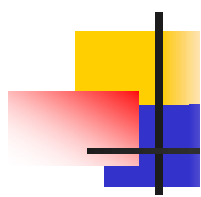
牛群擴大之生殖技術團隊 The AI Technical Team

- AI was introduced into Taiwan in 1970
- Farmers did AI by themselves and AI skill was trained by AI school at LRI.



A governmental bull station was established in 1977





The trend of dairy cattle industry in Taiwan.
(臺灣乳牛牧場數, 乳牛頭數及牧場規模趨勢)



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Annual Awards for Prolific Ten-Tons Cow of DHI Farmers

高繁天噸乳牛性能檢定獎項頒獎會



**Record-Breaking on Lifetime Milk
Production**

終身乳量創紀錄獎盃

Prolific Ten Tons Cow Award

高繁天噸牛獎

Elite Cow Award

春+夏+熱+秋期賽等四期高乳質天噸
牛獎

Queen Crown Award

五后冠獎



資料來源：種原資訊網

五后冠獎得獎場(2019 年成績)

五后冠獎
Queen Crown Award



粘連祿 DHI 戶

行政院農業委員會畜產試驗所頒贈
2020年1月8日



五后冠獎得獎場(2017 年成績)

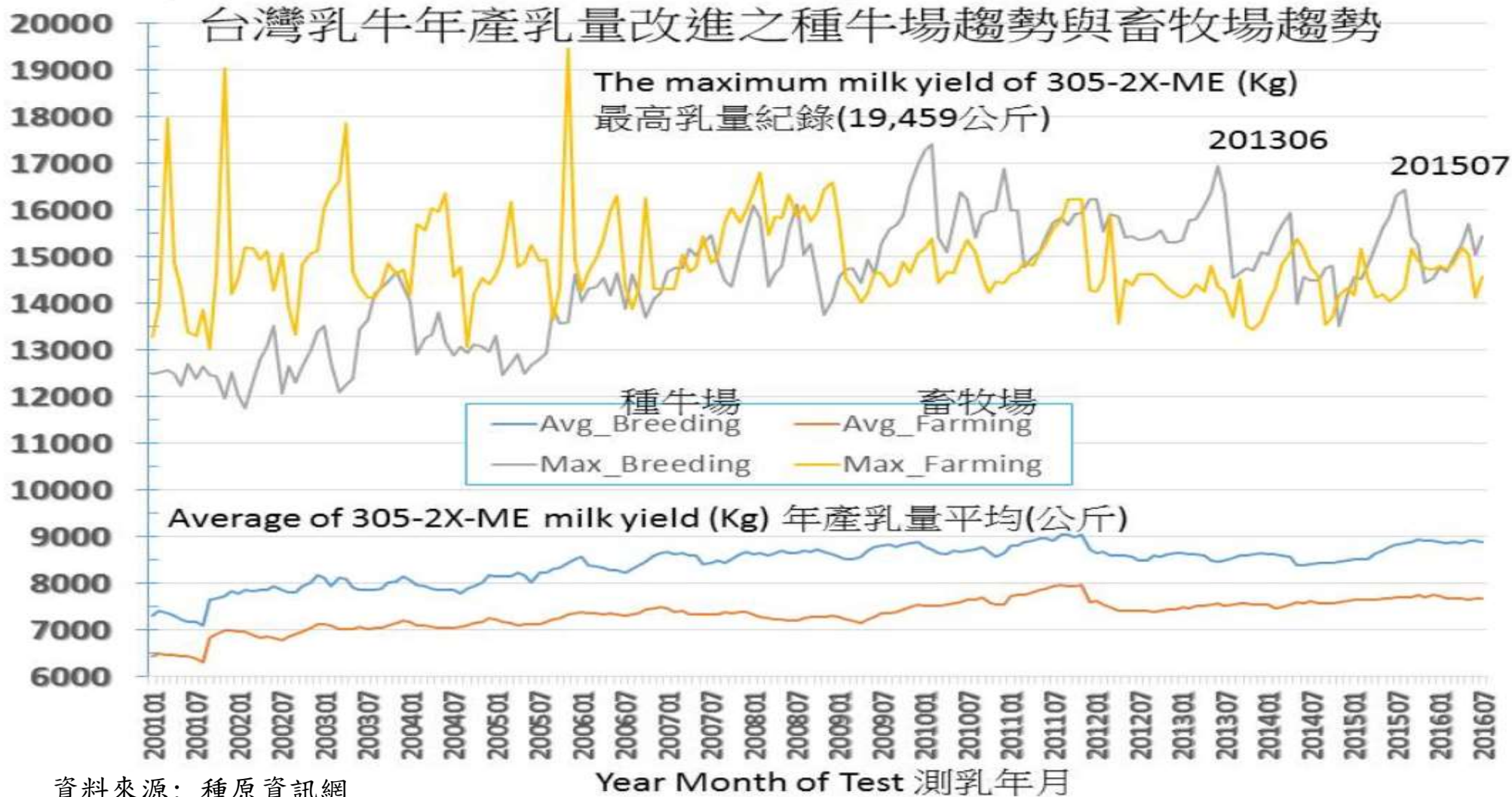
粘連祿 DHI 戶
梅桂牧場 DHI 戶

五后冠獎得獎場(2016 年成績)

黃智根 DHI 戶
梅桂牧場 DHI 戶

Improvement on 305-2X-ME milk yield in dairy cattle of Taiwan

台灣乳牛年產乳量改進之種牛場趨勢與畜牧場趨勢



資料來源：種原資訊網

The Annual Record of Ten-Tons Cow of DHI Farmers



測乳年度	天噸牛數	天噸場數	天噸場規模	天噸乳量	最高乳量
Year	No.Heads (Head)	No.Farms (Farm)	Farm Scale (Head/Farm)	305-2X-ME (Kg)	Max 305-2X-ME (Kg)
2013	1527	97	16	10786	14,410
2014	1633	105	16	10742	14,857
2015	2011	106	19	10902	14,873
2016	2497	125	20	10869	14,262
2017	2683	132	20	10808	15,247
2018	3239	142	23	10848	15,538
2019	2752	125	22	10828	15,087

The Distribution of Ten-Tons Cow of DHI Farmers

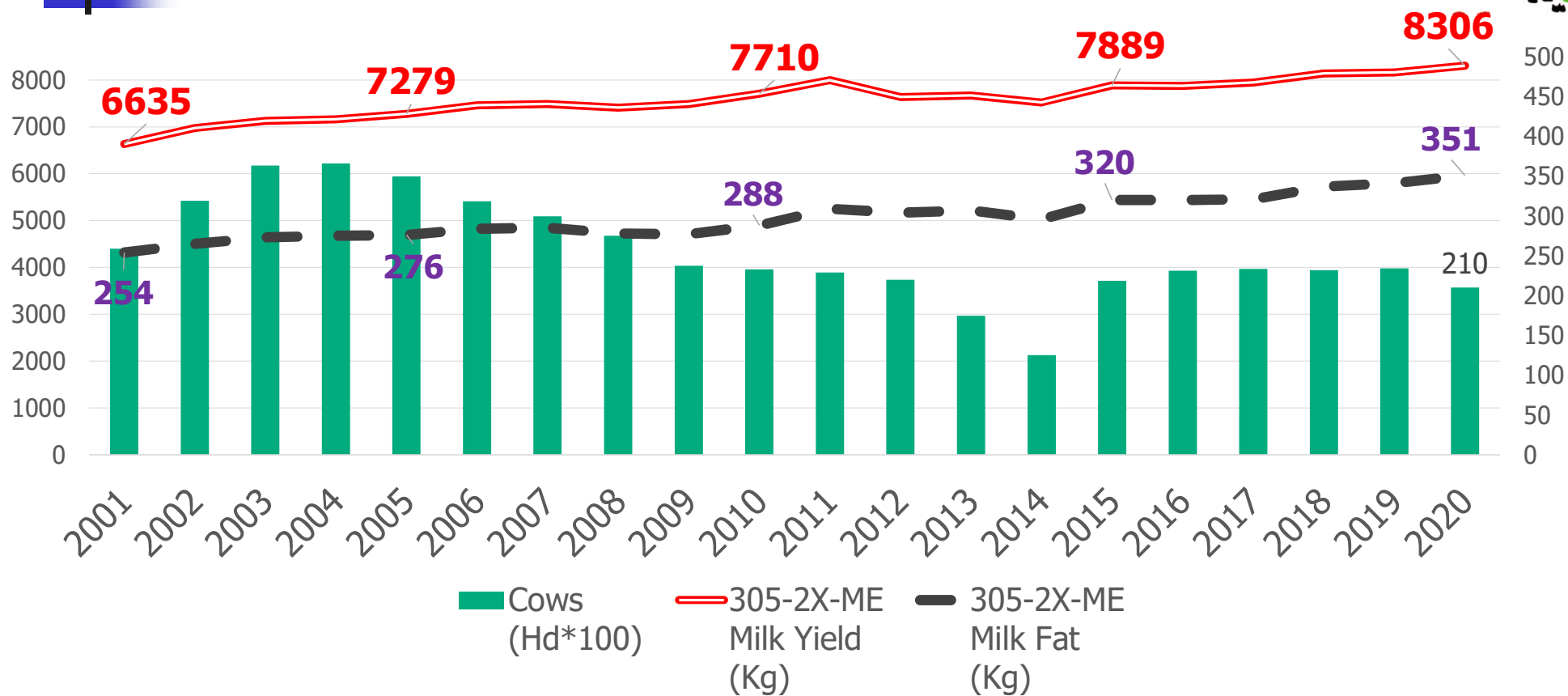


資料來源：
種原資訊網

The 2015 Breeding Awards for Prolific
Ten-Tons Cow of DHI Farmers

Year 2019	測乳地區	天噸牛數	天噸場數	天噸場規模	測乳值
	District	No.Heads (Head)	No.Farms (Farm)	Farm Scale (Head/Farm)	305-2X-ME (Kg)
	彰化	954	21	45	10,917
	台南	557	32	17	10,700
	屏東	325	27	12	10,703
	嘉義	236	11	21	10,878
	雲林	210	10	21	10,675
	桃園	161	6	27	11,094
	高雄	157	6	26	10,798
	花蓮	76	4	19	10,794
	南投	55	1	55	11,132
	新竹	8	1	8	10,601
	苗栗	7	3	2	10,457
	台北	4	1	4	10,897
	台中	2	2	1	10,475
	平均	212	10	22	10,828

Facts of Taiwan DHI (Acquire Date : 2020/9/28)

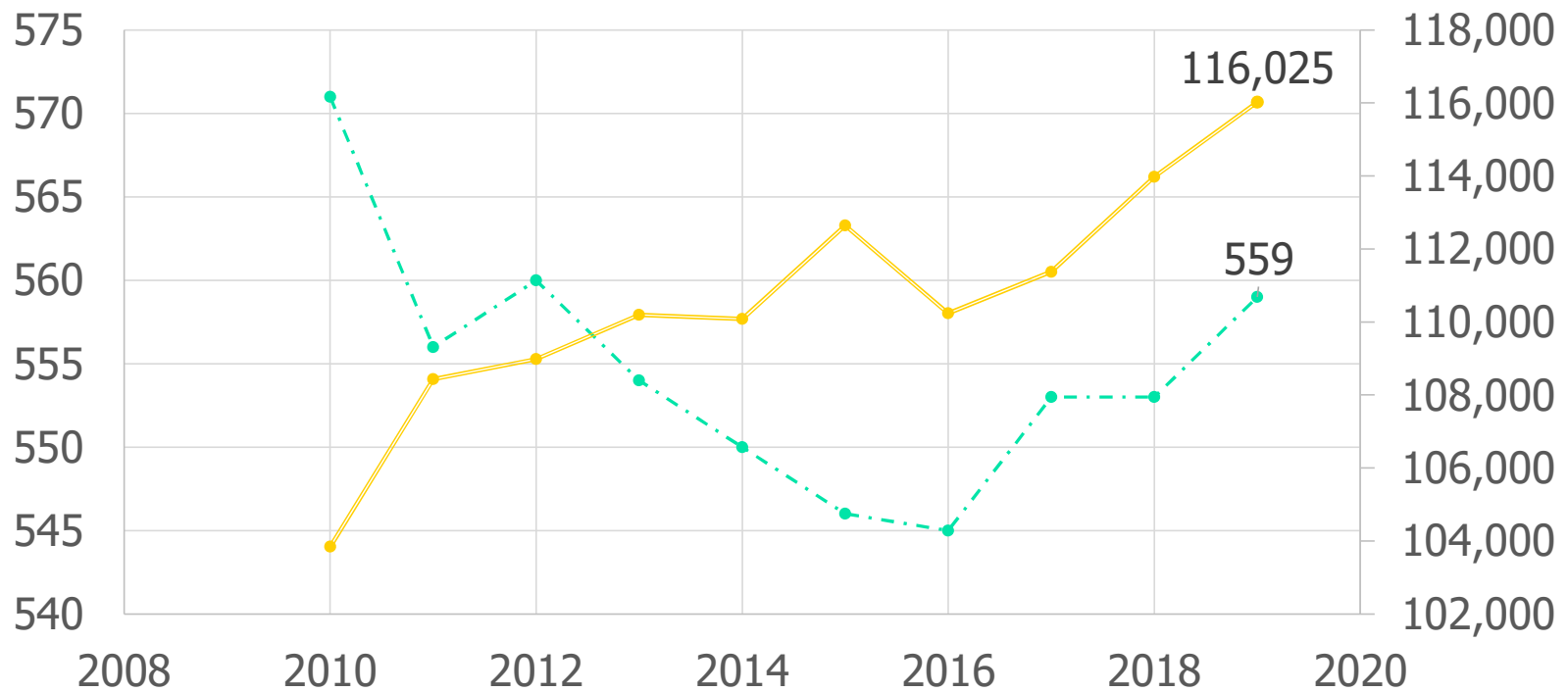




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The Number of Dairy Farming Household and Cows enrollment in Taiwan from 2008 to 2019



1 彰化縣
109戶 15,053頭
110,396公噸 (25.5%)

4 雲林縣
74戶 7,249頭
55,382公噸 (12.8%)

5 嘉義縣
35戶 4,138頭
28,316公噸(6.5%)

2 臺南市
101戶 11,537頭
77,537公噸(17.9%)



Number of Milking Cows

產乳牛頭數 **52,064**頭

Raw Milk Production

年產乳量 **366,750**公噸

前六大酪農縣市產量

占全國產量 **84.9%**

屏東萬丹、彰化福興、雲林崙背、台南柳營為四大酪農專區，占全國產量 **42.9%**

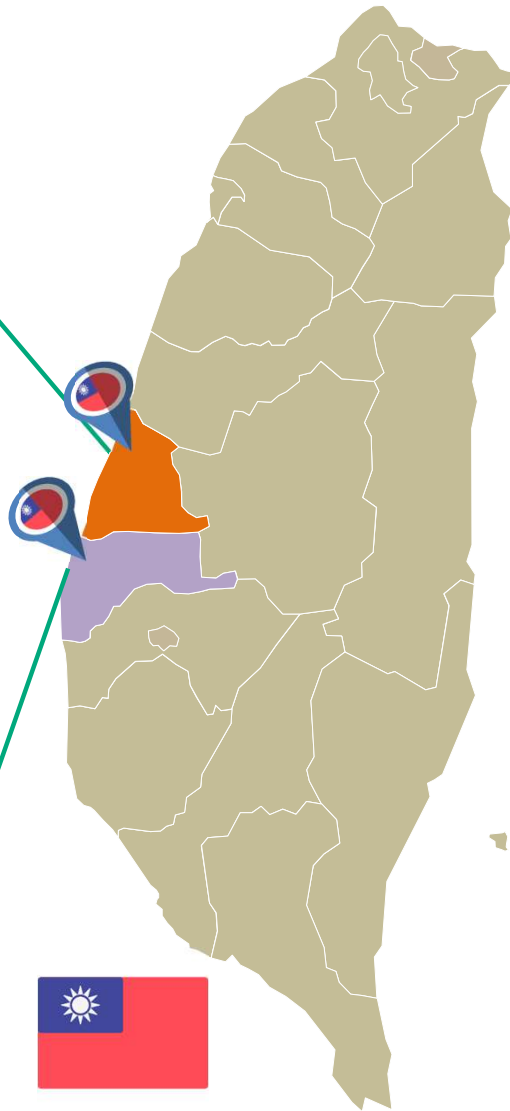


6 高雄市
32戶 3,424頭
19,414公噸(5.1%)

3 屏東縣
103戶 10,427頭
70,033公噸(16.2%)

Changhua County
Fuxing Township
 彰化縣 福興鄉
 Number of Farms 48 戶
 14,106 cows 頭 (12%)
 8,222 Kg/head 公斤/頭

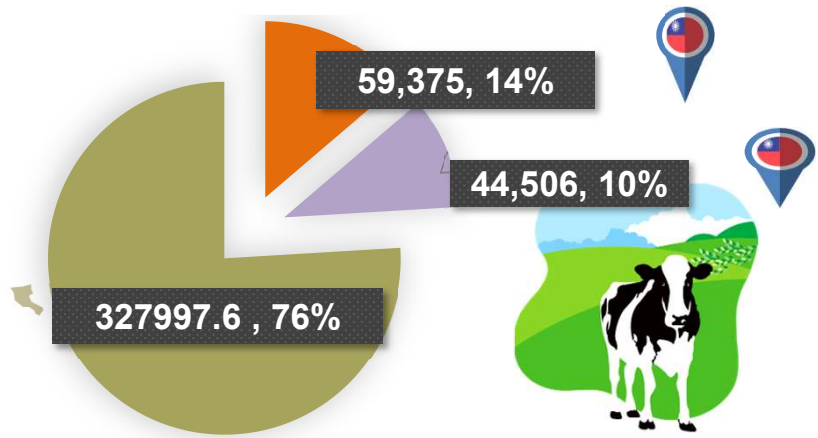
Yunlin County
Lunbei Township
 雲林縣 崙背鄉
 Number of Farms 57 戶
 11,466 cows 頭 (9.9%)
 7,769 Kg/head 公斤/頭



Taiwan-Fukien Region

108年每頭乳牛乳量
 2019 Raw Milk Production Per Cow
8022.4 Kg/head 公斤/頭
 All Region 6986.9 Kg/head 公斤/頭

% 生乳產量
 % Raw Milk
 福興鄉、崙背鄉 24%
 彰化縣、雲林縣 38.4%



The Number of Dairy Farming Household and Cows enrollment in Taiwan from 2010 to 2019



year	酪農戶	飼養規模	在養乳牛	泌乳牛	平均乳量	生乳產量	產值
	Number of Dairy Cattle Farming	Size of Herd Scale	Number of Dairy Cows	Number of Milking Cows	Weight of Milk Per Cow	Weight of Raw Milk	Value
	farm	head/farm	head	head	Kg/head	m.t.	N.T.\$1,000
2010	571	182	103,842	55,296	6077.0	336036	8,138,802
2015	546	206	112,647	61,859	6070.2	375499	9,826,805
2016	545	202	110,237	59,601	6350.4	378488	9,905,042
2017	553	201	111,376	60,523	6383.7	386362	10,111,090
2018	553	206	113,978	61,967	6767.2	419342	10,974,175
2019	559	208	116,025	61,813	6986.9	431879	11,302,281



Thank you for your attention

