

天噸乳牛305-2X-ME乳量預估值泌乳曲線探析

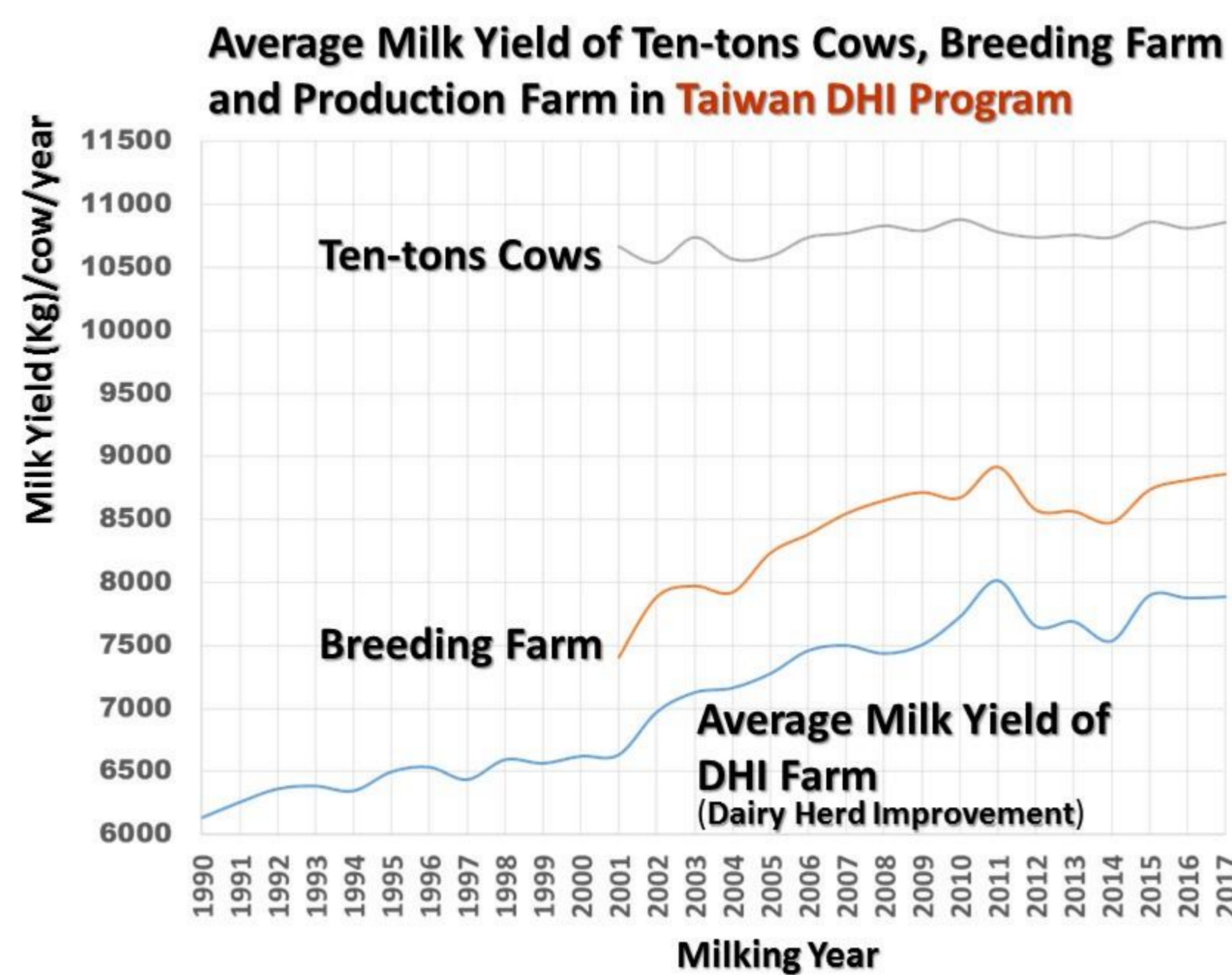


吳明哲⁽¹⁾、曹全偉⁽¹⁾、朱巧倩⁽¹⁾、蔡秀容⁽¹⁾、賴永裕⁽¹⁾、王思涵⁽¹⁾、蕭振文⁽¹⁾、方清泉⁽²⁾、方愛茹⁽²⁾、陳中興⁽³⁾、王忠恕⁽³⁾

⁽¹⁾行政院農業委員會畜產試驗所 ⁽²⁾中華民國乳業協會 ⁽³⁾行政院農業委員會畜牧處

台灣乳牛群性能改進計畫(DHI)自2001年1月至2018年10月止計有215,677頭泌乳牛參加測乳，依泌乳牛之產次、分娩月份、產乳天數及該月的採樣日測乳量，而預估這個泌乳期305天之擠乳兩次的成熟年齡(305-2X-ME)乳量預估值。當這頭泌乳牛有測乳5次以上的305-2X-ME乳量預估值且其平均在10,000Kg以上，視同該頭乳牛年產乳量有10公噸以上，10公噸的英文是Ten Tons，取其音取其義，稱這種乳牛為天噸乳牛(Ten-Tons Cow)。

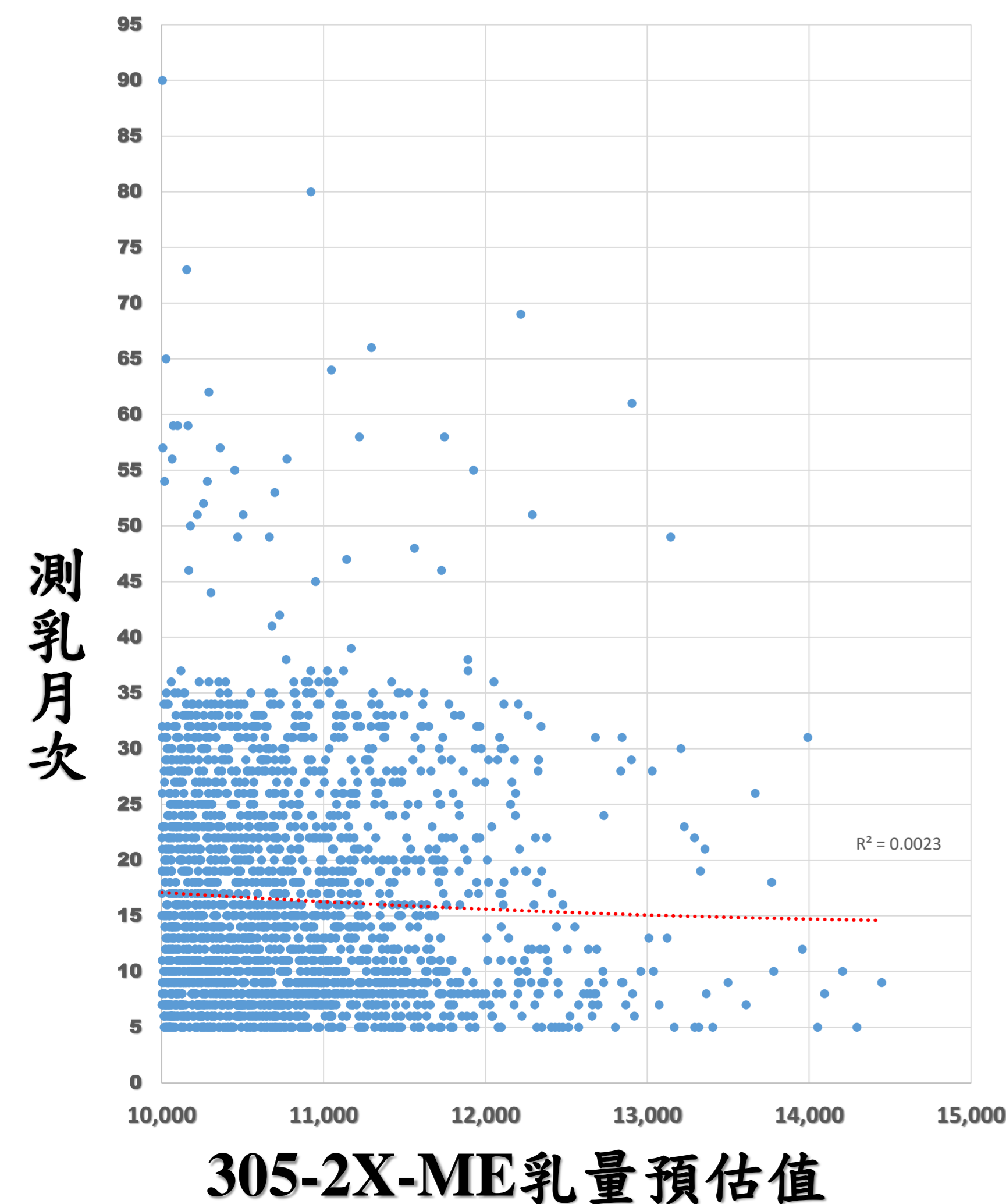
完成測乳年	天噸乳牛頭數	最後測乳月齡平均	最後測乳月齡最老	測乳月次平均	測乳月次最多	乳量最大	脂肪量最大	305-2X-ME乳量平均	305-2X-ME脂肪量平均	乳量預估值平均	脂肪量預估值平均
2018	2305	50	13.3	16.5	90	14,448	835	10,798	442	577	22
2017	530	56	11	17.9	65	14,741	769	10,794	424	548	18
2016	514	54	11	14.8	72	13,373	652	10,812	427	634	21
2015	571	56	13.2	15.7	96	14,873	742	10,865	424	640	22
2014	1147	46	11.1	13.3	77	14,857	721	10,741	431	646	25
2013	454	56	12.6	19.3	72	13,501	637	10,761	411	623	22
2012	565	52	11.2	17.9	58	14,088	651	10,741	409	710	26
2011	531	53	17.1	16.6	72	13,530	708	10,784	418	736	29
2010	314	56	12.6	18.3	64	14,230	602	10,883	395	893	31
2009	293	58	15.5	16.3	59	13,628	725	10,793	407	922	34
2008	536	53	11	15.4	68	14,793	752	10,833	424	884	35
2007	323	53	12.7	15.1	60	14,252	651	10,773	407	900	33
2006	326	51	17.9	13.6	48	13,396	721	10,742	412	874	33
2005	325	55	16.8	14.3	46	13,584	710	10,591	403	949	35
2004	248	55	14.9	14.4	40	13,012	676	10,569	393	954	33
2003	144	50	10.5	11.4	36	13,788	679	10,742	411	1,049	40
2002	103	57	9.7	9.6	20	12,503	531	10,540	378	988	32
2001	32	52	10.7	6.1	11	12,595	869	10,669	400	1,113	41



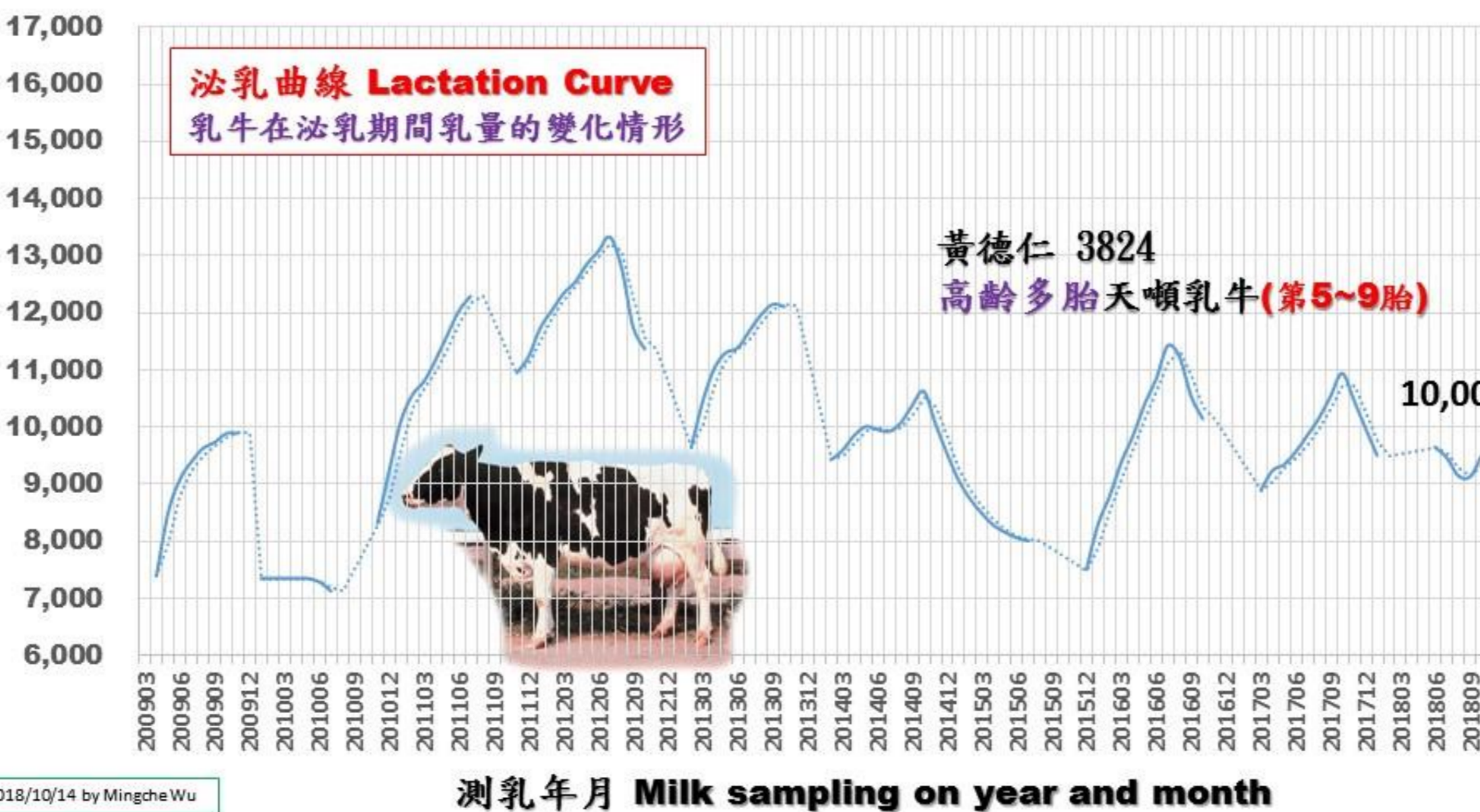
依天噸乳牛測乳最後的年來看，從2001年的32頭天噸乳牛，逐年增加至2018年的2,305頭，18年來總計有9,261頭天噸乳牛。本研究應用2018年的2,305頭天噸乳牛來探析305-2X-ME乳量預估值泌乳曲線。2018年的天噸乳牛平均乳量為10,798Kg(最高產乳量有14,448Kg)、平均測乳16.5月次、平均50月齡，之中有測乳達90月次及13.3年齡。

縣市	天噸乳牛頭數	飼養戶數	基因檢測頭數	測乳月次平均	測乳月次最多	305-2X-ME乳量平均	305-2X-ME乳量最高	收乳廠數	測乳頭數	測乳戶數	天噸乳牛頭數比	天噸乳牛戶數比
彰化	937	23	16	54	19.5	10,849	14,207	5	5781	27	16.2	85.2
台南	416	34	1	47	13.8	10,694	13,039	5	6570	42	6.3	81.0
屏東	235	25	1	48	15.4	10,669	14,095	4	5156	38	4.6	65.8
雲林	195	11	1	48	15.0	10,695	13,611	2	2097	19	9.3	57.9
桃園	173	5	3	49	14.5	11,008	14,448	3	1214	7	14.3	71.4
嘉義	136	9	1	48	15.4	10,823	12,671	4	1821	16	7.5	56.3
花蓮	78	4	0	47	15.1	10,786	14,295	2	962	4	8.1	100.0
高雄	66	7	1	46	13.1	10,705	12,841	4	1185	11	5.6	63.6
南投	44	1	0	49	8.3	11,174	12,867	-	229	1	19.2	100.0
苗栗	12	5	0	42	9.3	10,342	11,429	4	737	7	1.6	71.4
新竹	12	1	0	68	20.8	10,932	11,863	1	235	1	5.1	100.0
台北	1	1	0	87	25.0	10,800	10,800	1	29	1	3.4	100.0
合計	2305	126	24	50	16.5	10,798	14,448	17	26215	179	8.8	70.4

設定測乳月次30次以上的為高繁天噸乳牛，計有273頭，其乳量平均為10,808Kg及平均80.8月齡。高繁天噸乳牛之305-2X-ME乳量預估值泌乳曲線並非呈現水平線，但多隨母牛產次增加而先提高至第5產次再下降。



乳量(Kg)	乳牛編號	場內號	出生日期	月齡(月)	年齡(歲)	2018年測乳日期	縣市	酪農代碼	酪農	測乳員	乳樣數	雄親	雌親
10,005	96113824	3824	2007/7/16	135	11.3	2018/10/1	彰化	10875	黃德仁	施誌樵	90	39H709	94112535
10,952	95113544	3544	2006/9/21	143	11.9	2018/8/15	彰化	10876	黃炳森	施誌樵	79	200H1232	92115037
14,649	05117252	7252	2014/12/26	39	3.3	2018/3/20	彰化	10811	黃進財	陳潤榮	11	外購	外購
14,448	4040302	79-5	2015/4/29	37	3.1	2018/5/27	桃園	5047	許成寶	自行採樣	12	751H2700	1041438
14,207	5117538	7538	2015/7/5	35	2.9	2018/6/18	彰化	10833	顏志明	陳潤榮	10		
13,961	111139	1139	2011/9/7	83	6.9	2018/8/15	彰化	10876	黃炳森	施誌樵	30	777H9415	98116188
13,667	03112751	2751	2014/1/5	54	4.5	2018/7/11	彰化	10827	林樹枝	陳潤榮	26	751H9092	00111942



ANALYSIS ON THE LACTATION CURVE OF 305-2X-ME MILK YIELD ESTIMATION OF TEN-TONS COW

M. C. Wu⁽¹⁾, C. W. Chao⁽¹⁾, C. C. Chu⁽¹⁾, H. R. Tsai⁽¹⁾, Y. Y. Lai⁽¹⁾, S. H. Wang⁽¹⁾, J. W. Hsiao⁽¹⁾, Q. Q. Fang⁽²⁾, I. R. Fang⁽²⁾, C. H. Chen⁽³⁾ and C. S. Wang⁽³⁾

⁽¹⁾Livestock Research Institute, Council of Agriculture, Executive Yuan; ⁽²⁾Dairy Association of ROC; ⁽³⁾Animal Industry Division, Council of Agriculture, Executive Yuan

Taiwan Dairy Herd Improvement Program (DHI) has 215,677 milking cows from January 2001 to October 2018, the maturity equivalent milk yield estimation of 305-2X-ME was adjusted by the parity of the testing cow, the month of calving, the number of days after calving for milk sampling to the total amounts of milk for 305 days of lactation. When this lactating cow has an estimated 305-2X-ME for more than 5 times and its average is more than 10,000 kg, it is considered that the annual milk yield of the cow is 10 metric tons or more, and 10 metric tons of English is Ten-Tons, take its sound and take it as its name, saying that this cow is a Ten-Tons Cow. According to the year of last milk testing for Ten-Tons Cow, there were 32 cows in 2001 and then increased year by year to 2,305 cows in 2018. In the past 18 years, there were a total of 9,261 head of Ten-Tons Cow. This study used those of 2,305 cows in 2018 to analyze the lactation curve of the 305-2X-ME milk yield estimation. In 2018, the average milk yield of cows is 10,798 kg (the highest milk yield is 14,448 kg), the average milk sampling is 16.5 times, and the average age is 50 months old. Among them, the greatest times of milk sampling is 90 times and the maximum age is 13.3 years old. There are 273 cows with a higher than 30 times of milk sampling, and the average milk yield is 10,808 kg and an average age of 80.8 months old. The lactation curve of 305-2X-ME milk yield estimation of prolific Ten-Tons Cow is not in the horizontal line, but its milk yield increased with the parity of cows to the fifth parity. In this study, we can plot lactation curves of 305-2X-ME milk yield estimation of higher age and prolific cows with various parties. The typical lactation curve was mostly in the type of the ascending line, and secondly was in the type of the upper parabolic type.

Key Words: Dairy cattle, Milk yield, Parity

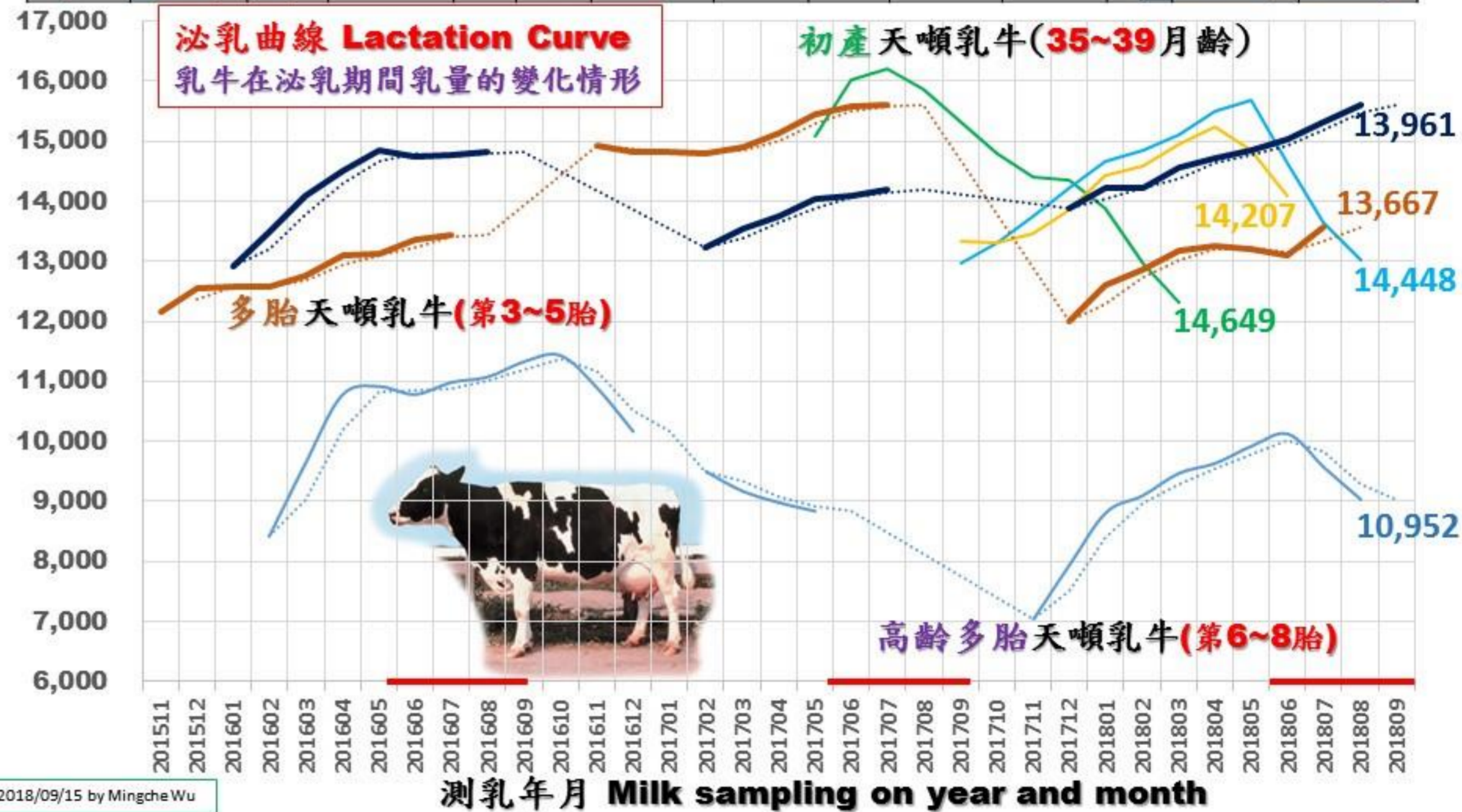
Members of ICAR (International Committee for Animal Recording)



2011 (in blue)
Japan
Korea
Taiwan



乳量(Kg)	乳牛編號	場內號	出生日期	月齡(月)	年齡(歲)	2018年測乳日期	縣市	酪農代碼	酪農	測乳員	乳樣數	雄親	雌親
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結論

本研究探析出產乳量持續度高的高齡多胎牛隻之305-2X-ME乳量預估值泌乳曲線型態有各種，以斜線上升型泌乳曲線居多，其次為上拋物線型。