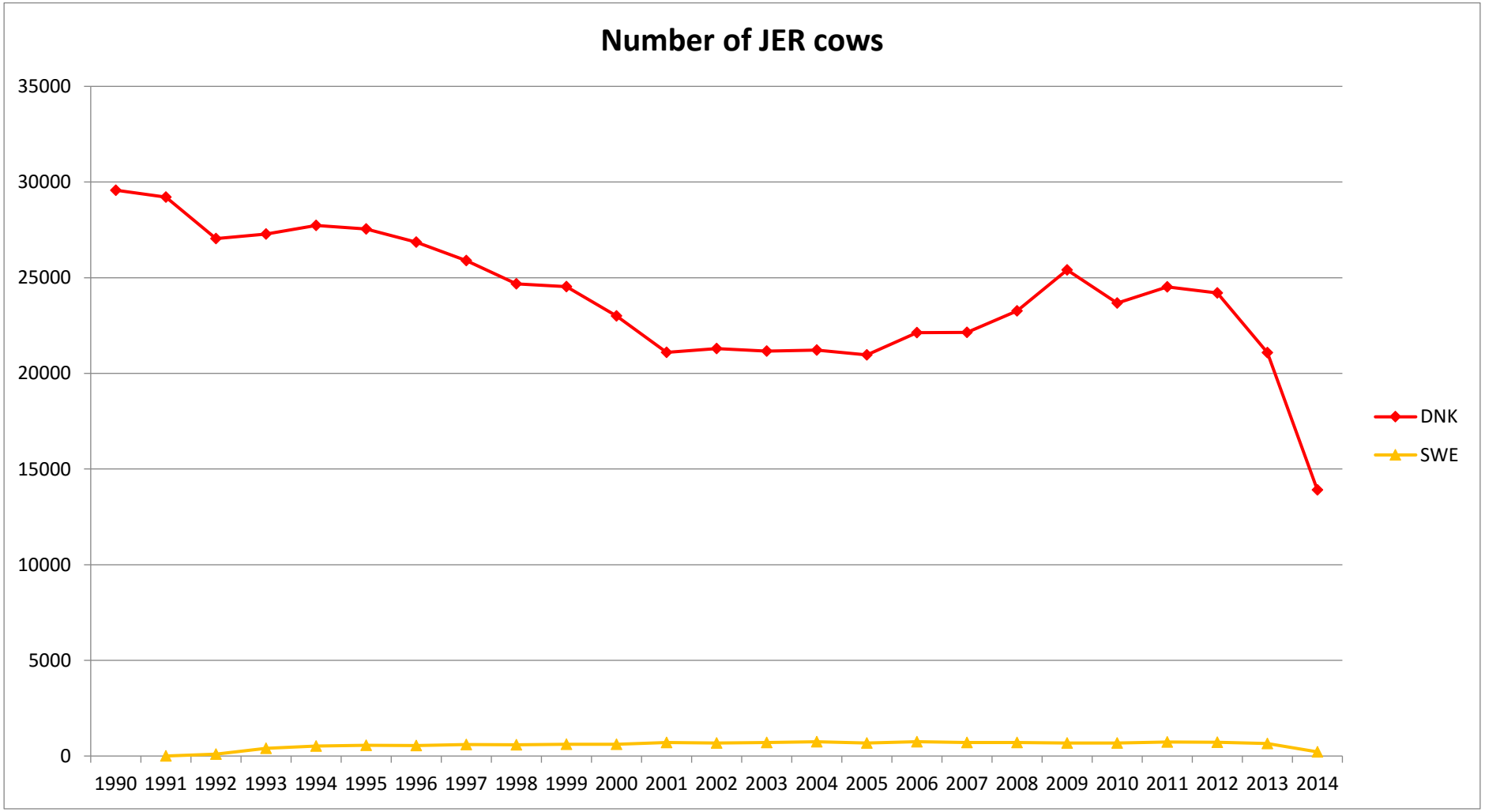
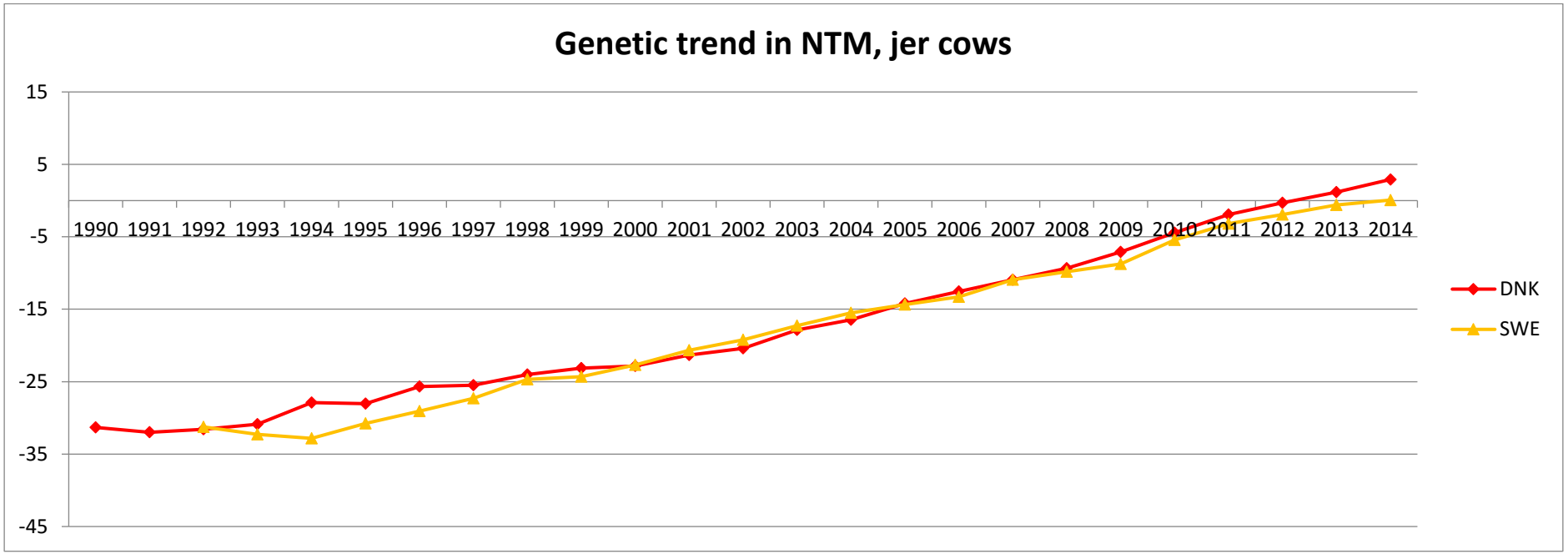
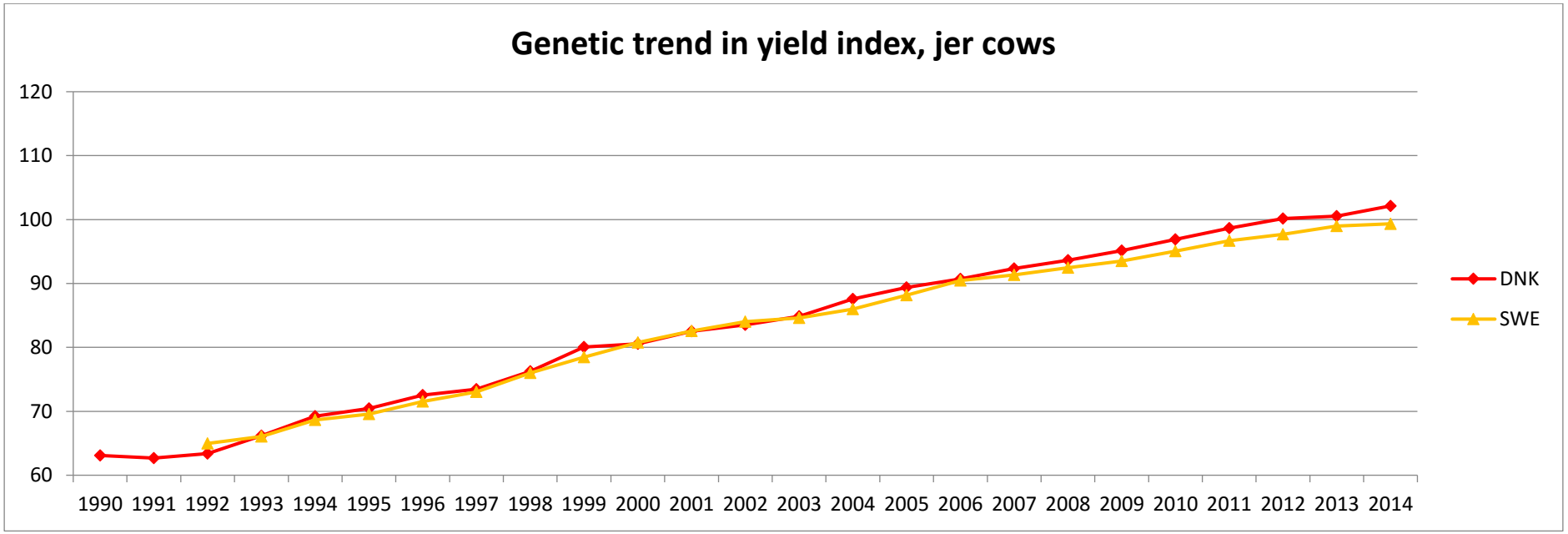
NAV workshop 19.1.2016

Following document shows genetic trends in traits that are included in NTM. Additionally, genetic trends in individual type traits, in yield traits and in growth traits are given. Genetic trends are calculated from females that get breeding values in NAV evaluation. For each birth year class a mean is calculated. From annual means it can be concluded how the population is changing over years.




Genetic trend in NTM, jer cows
15
5
-5
-15
-25
-35
-45
1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014
DNK
SWE


Genetic trend in yield index, jer cows
120
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100
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80
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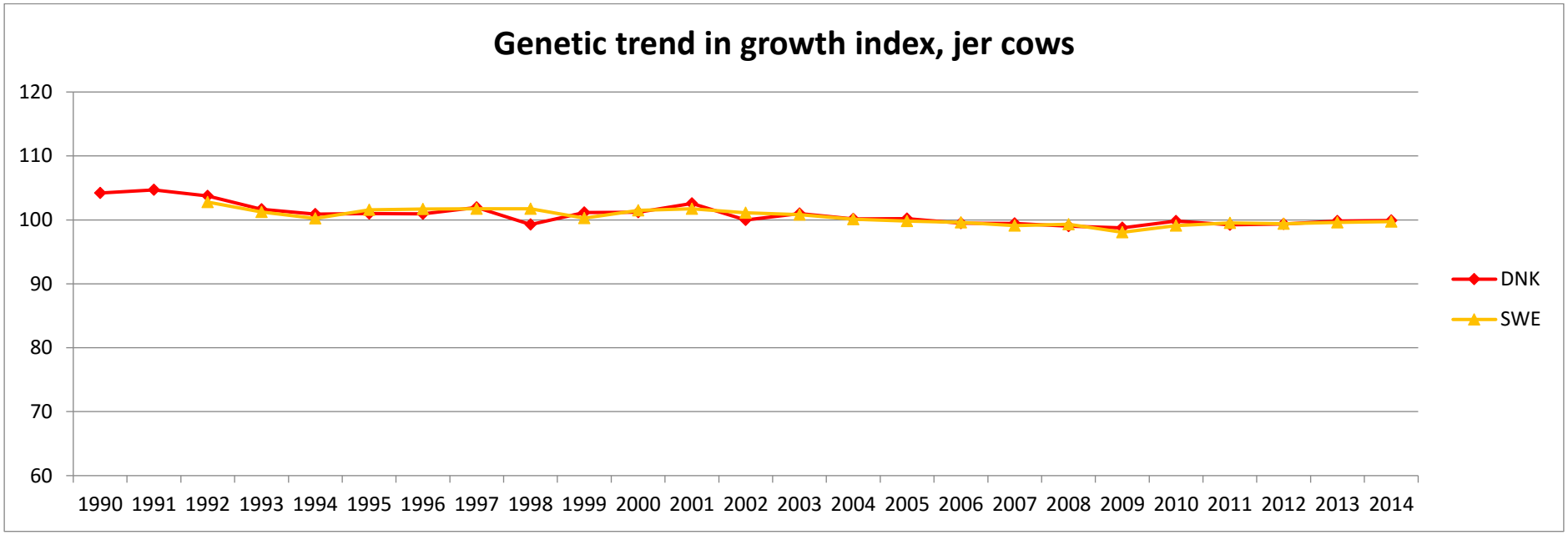
60
1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014
DNK
SWE


Genetic trend in growth index, jer cows
120
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60
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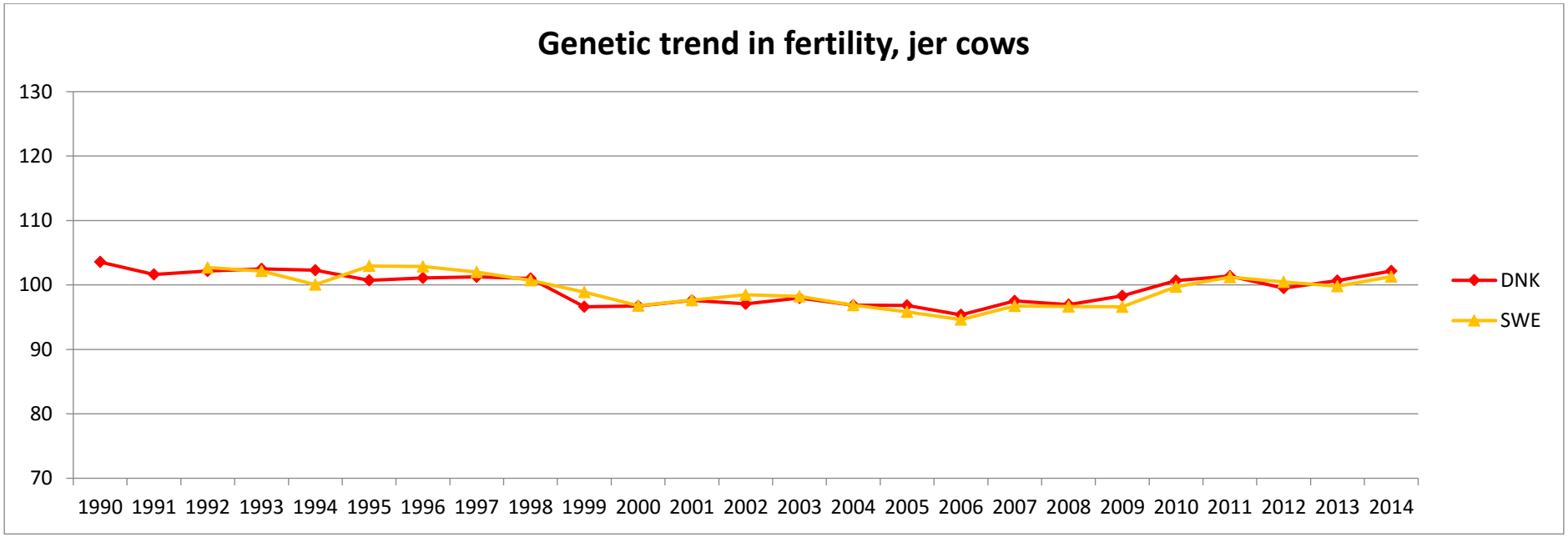
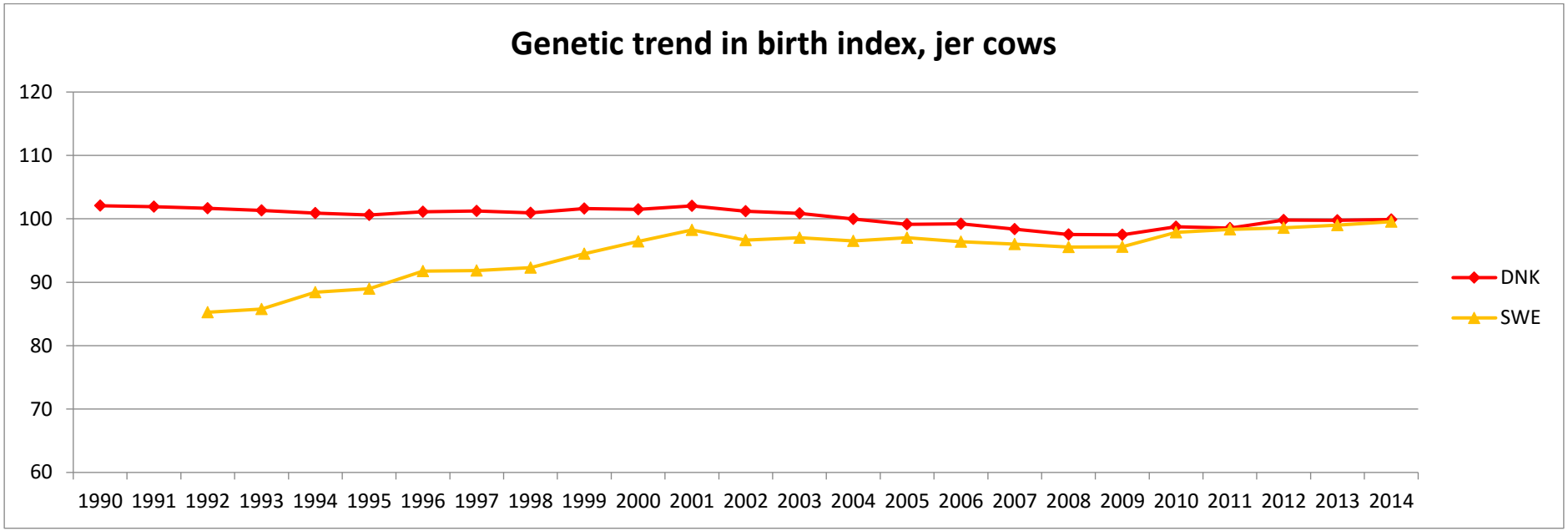
DNK
SWE


Genetic trend in fertility, jer cows
130
120
110
100
90
80
70
1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014
DNK
SWE


Genetic trend in birth index, jer cows
120
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100
90
80
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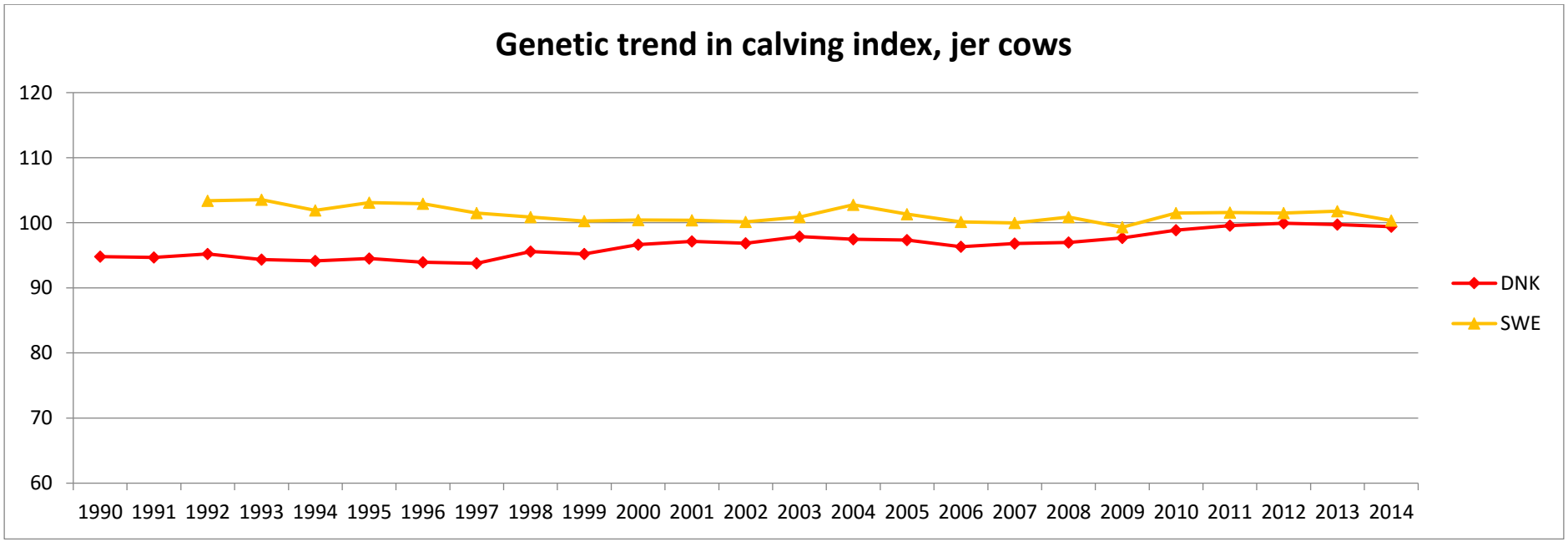
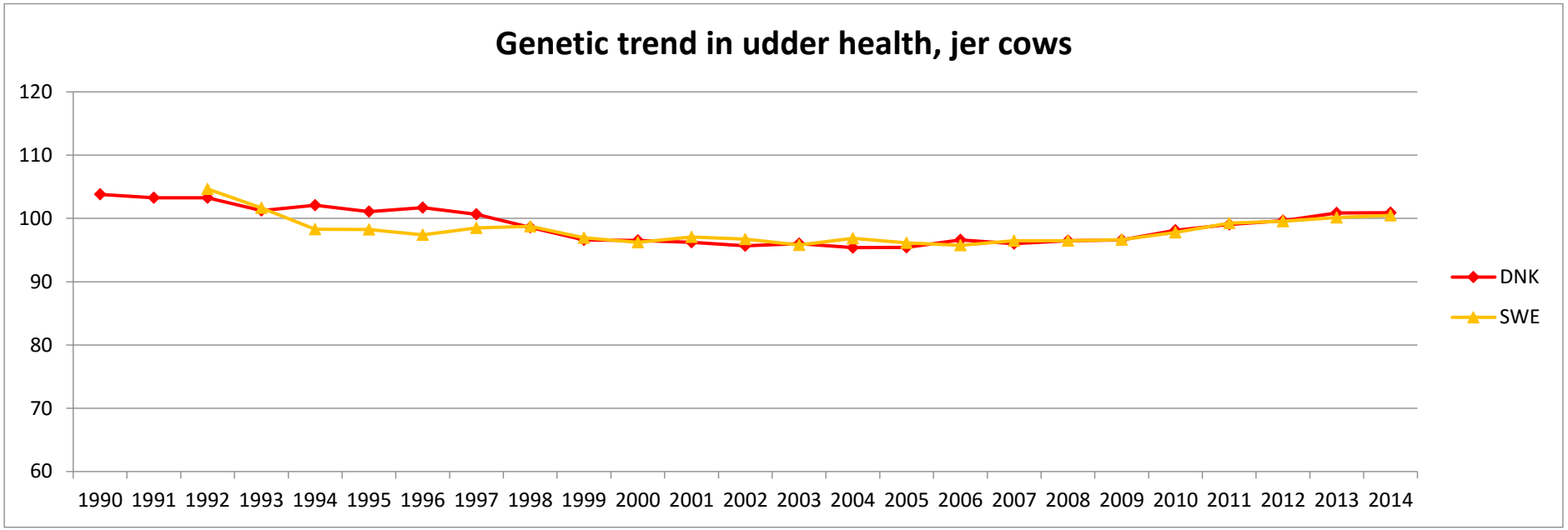
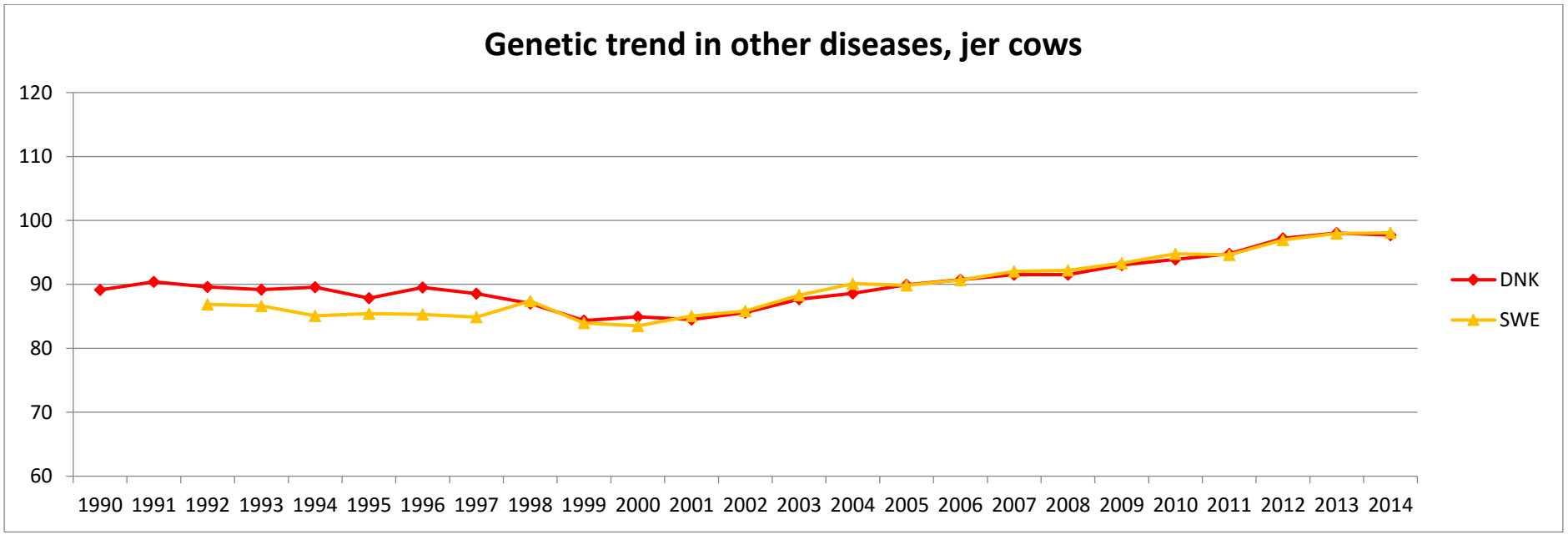
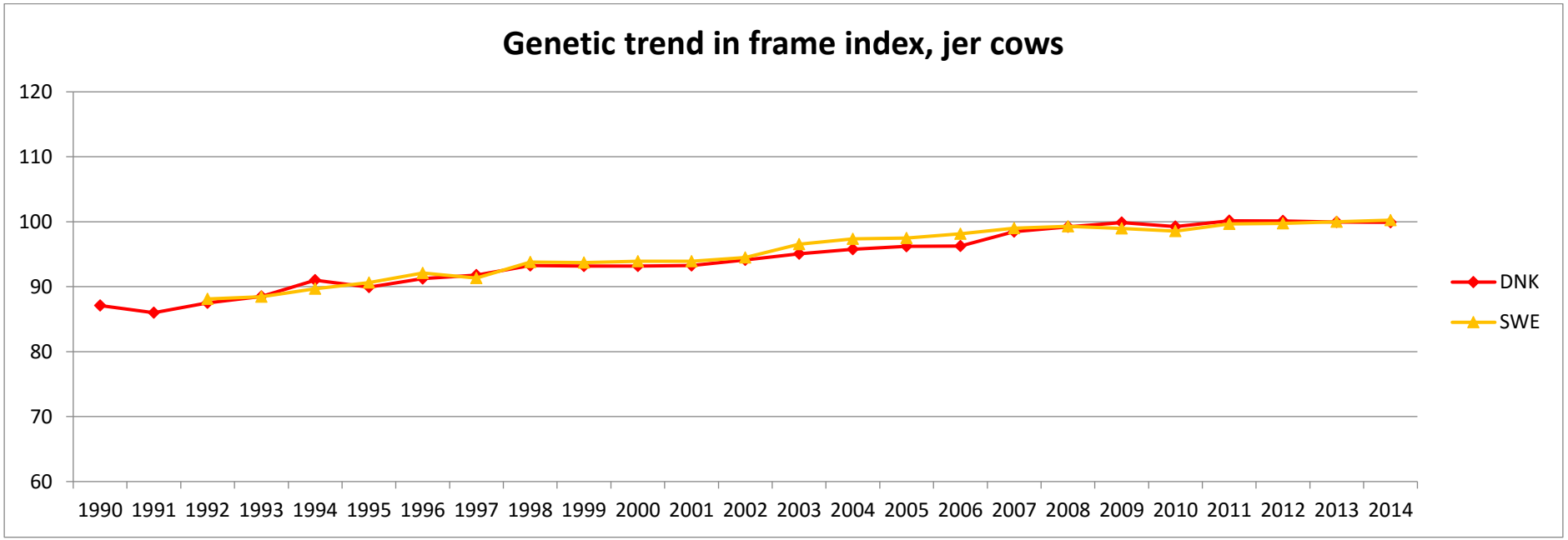
60
1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014
DNK
SWE


Genetic trend in calving index, jer cows
120
110
100
90
80
70
60
1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014
DNK
SWE


Genetic trend in udder health, jer cows
120
110
100
90
80
70
60
1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014
DNK
SWE


Genetic trend in other diseases, jer cows
120
110
100
90
80
70
60
1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014
DNK
SWE


Genetic trend in frame index, jer cows
120
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100
90
80
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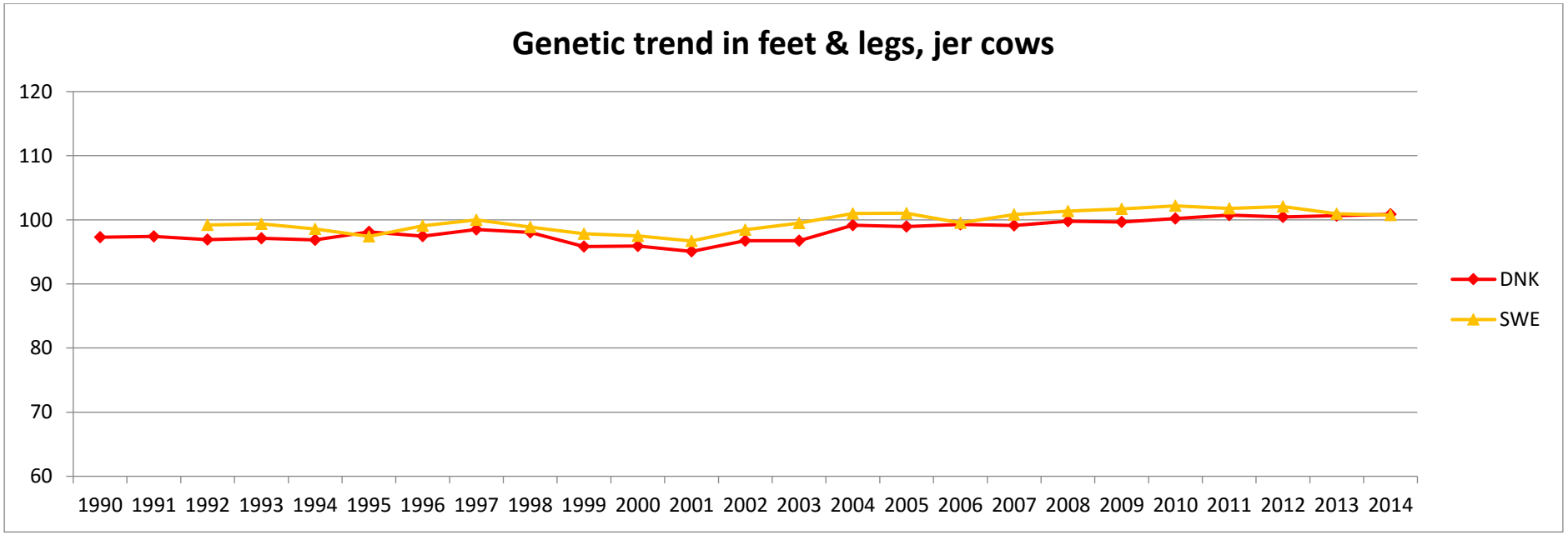
1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014
DNK
SWE


Genetic trend in feet & legs, jer cows
120
110
100
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80
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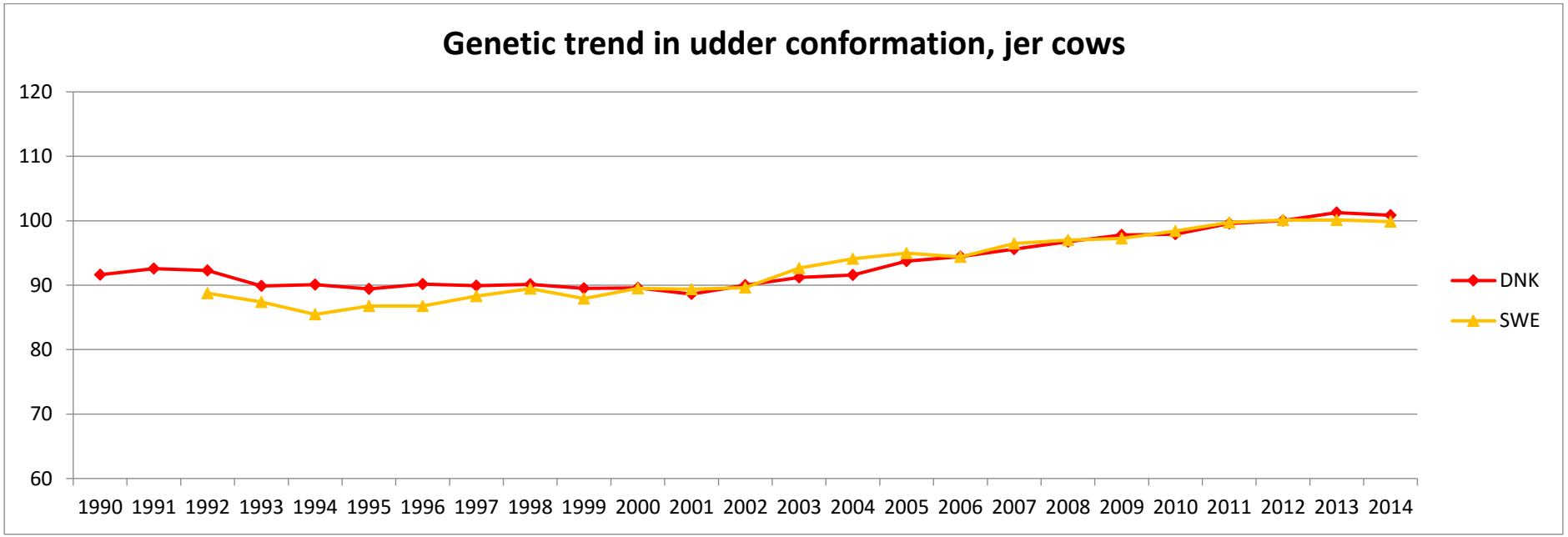
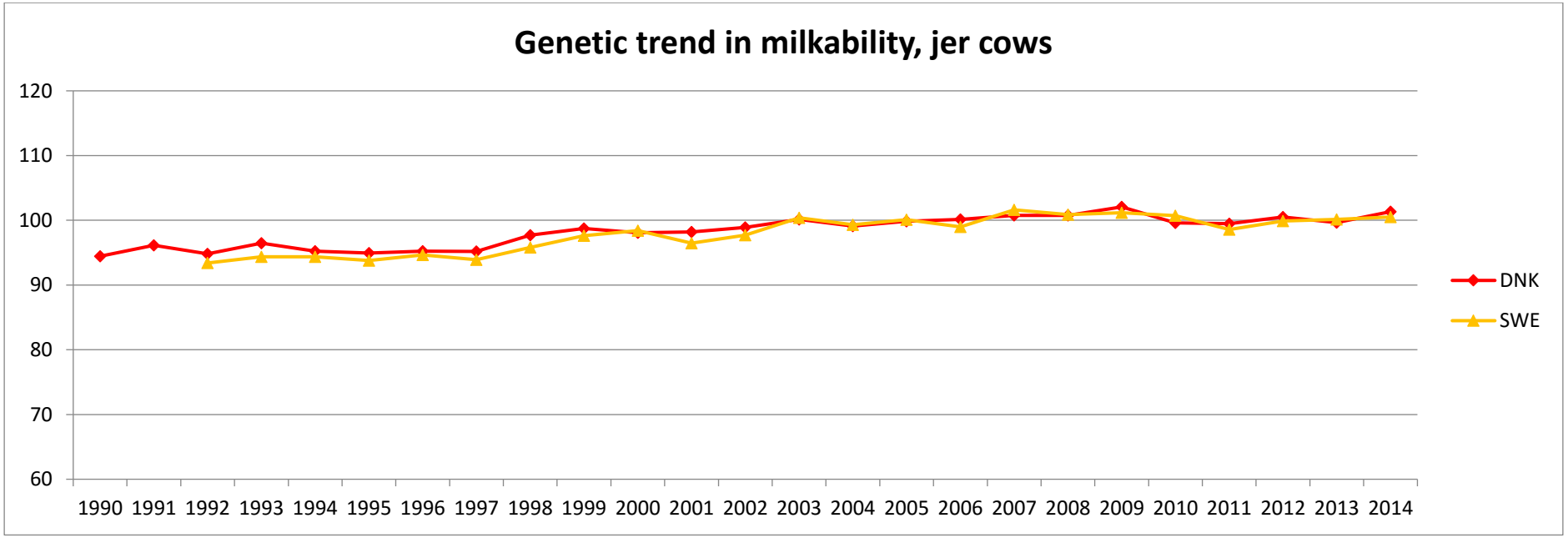
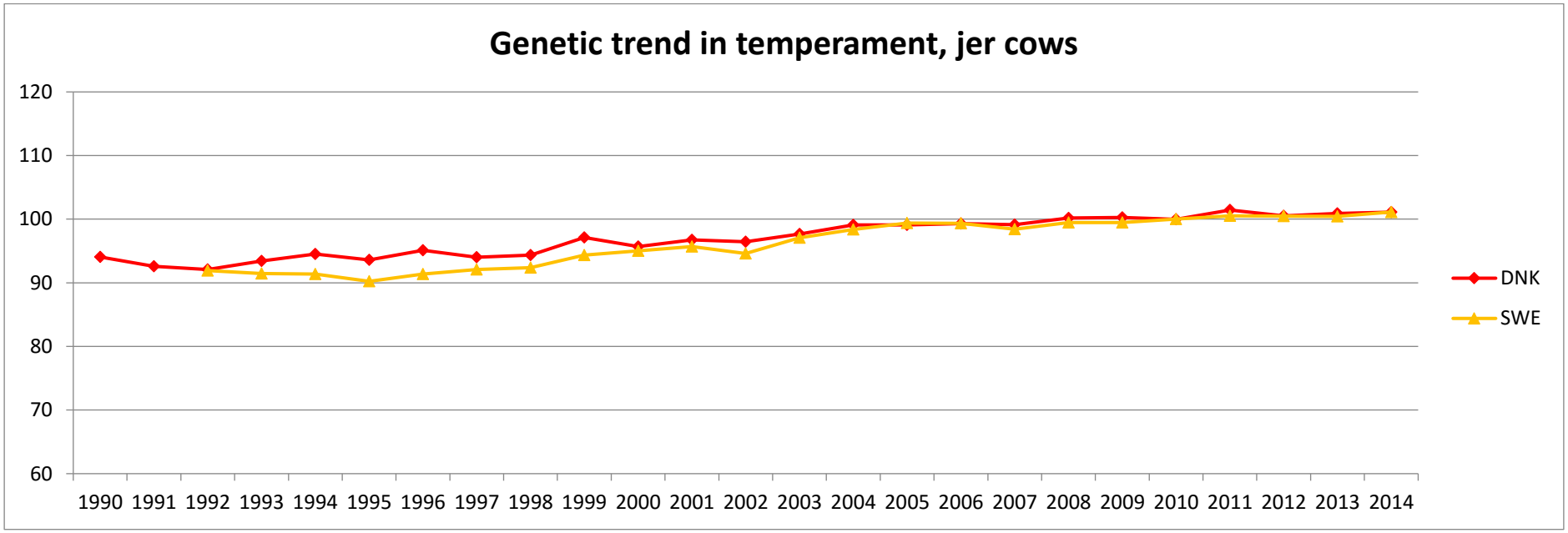
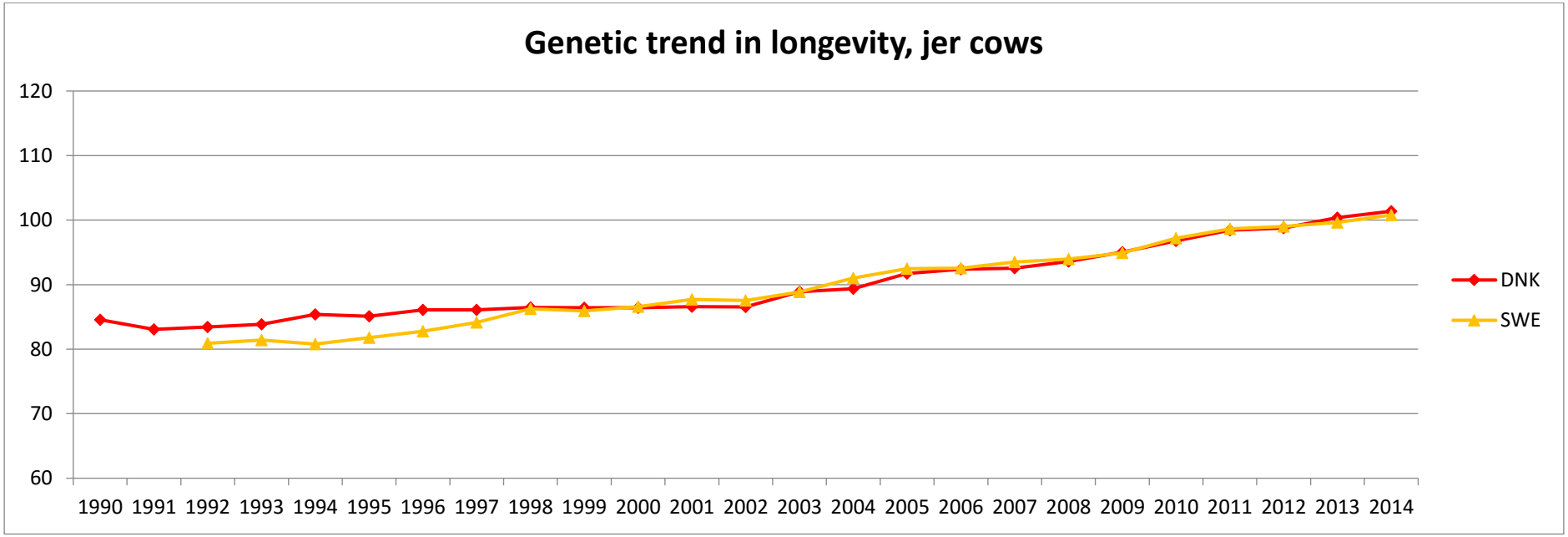
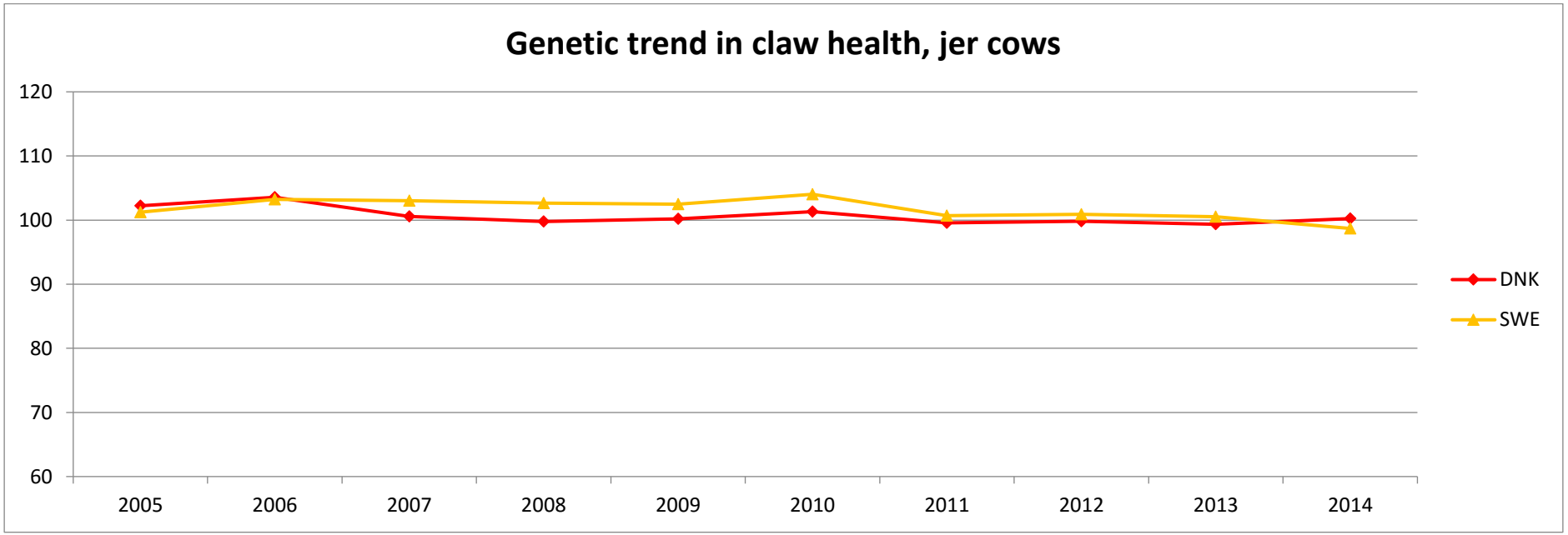
60
1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014
DNK
SWE

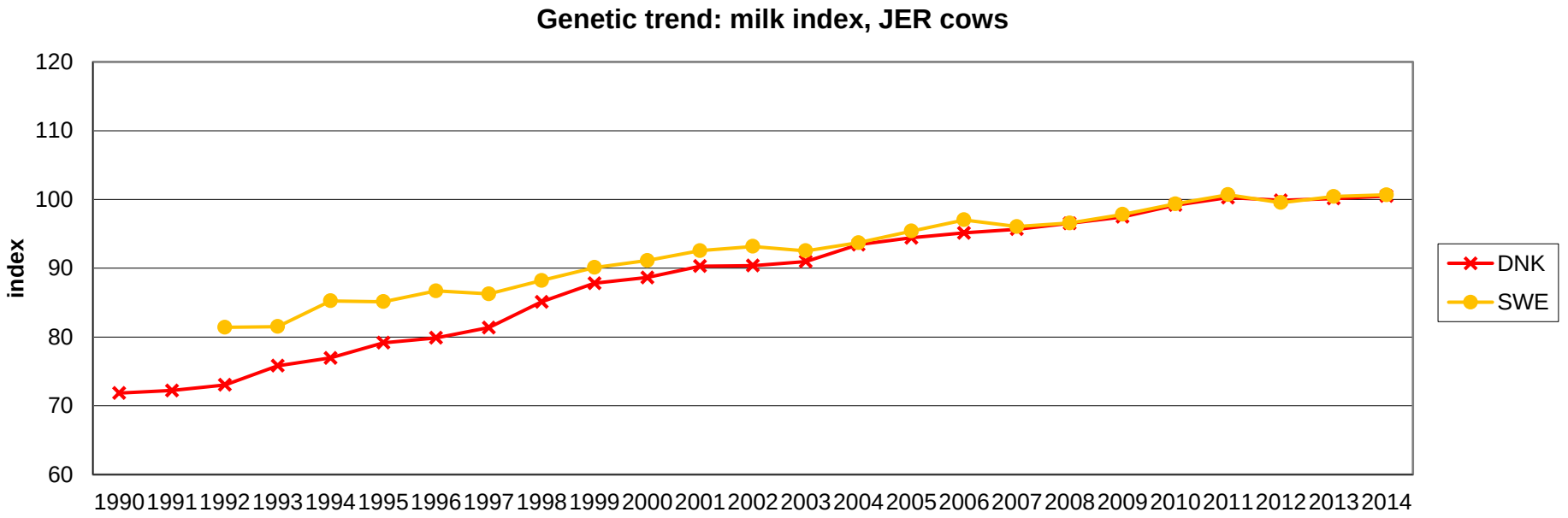

Genetic trend in udder conformation, jer cows
120
110
100
90
80
70
60
1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014
DNK
SWE


Genetic trend in milkability, jer cows
120
110
100
90
80
70
60
1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014
DNK
SWE

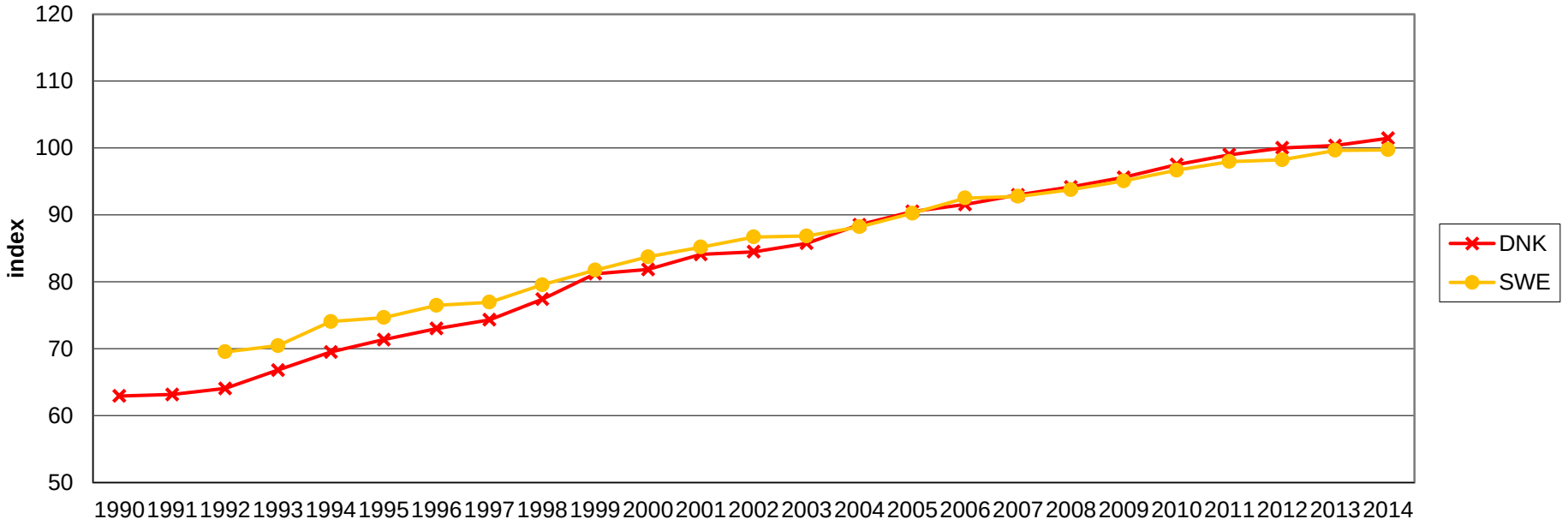

Genetic trend in temperament, jer cows
120
110
100
90
80
70
60
1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014
DNK
SWE


Genetic trend in longevity, jer cows
120
110
100
90
80
70
60
1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014
DNK
SWE

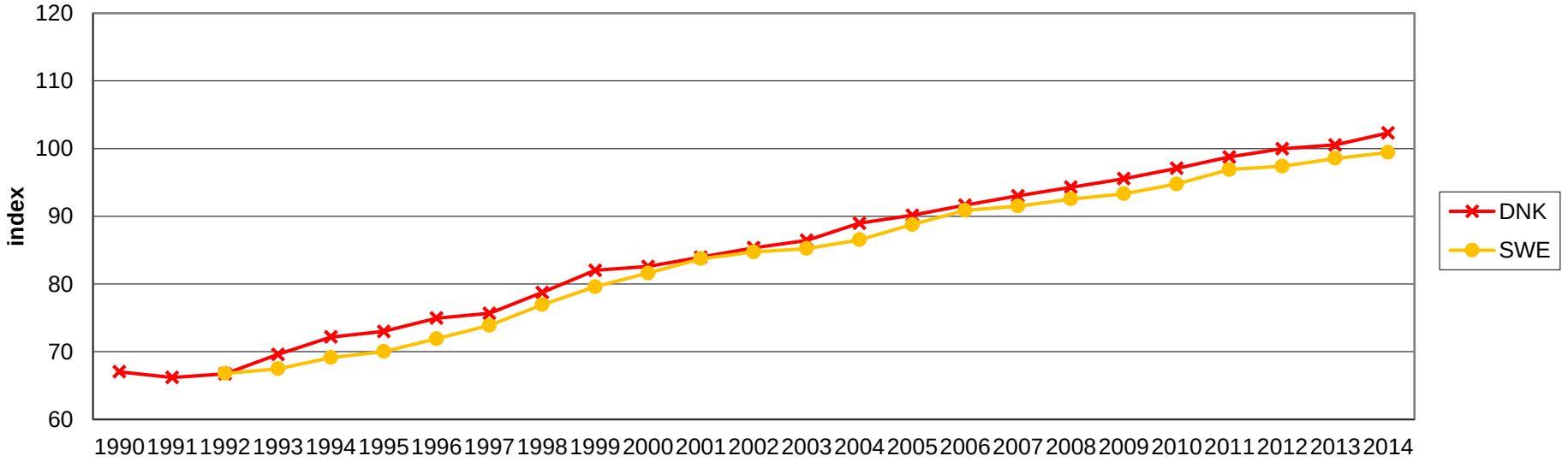

Genetic trend in claw health, jer cows
120
110
100
90
80
70
60
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
DNK
SWE


Genetic trend: milk index, JER cows
index
120
110
100
90
80
70
60
1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014
DNK
SWE

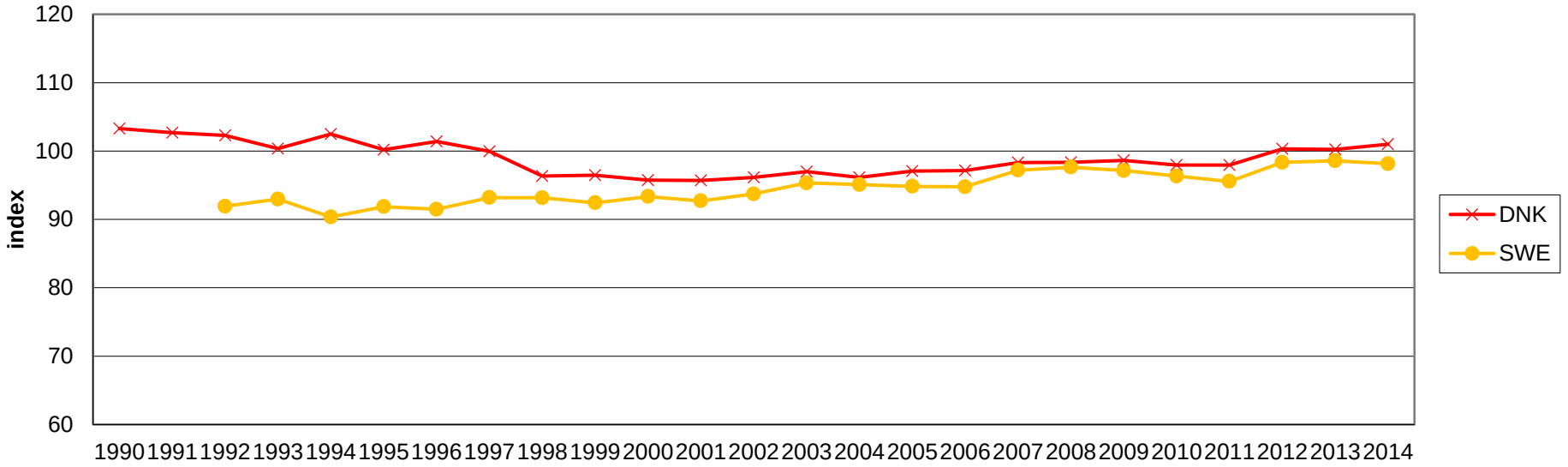
Genetic trend: protein kg index, JER cows



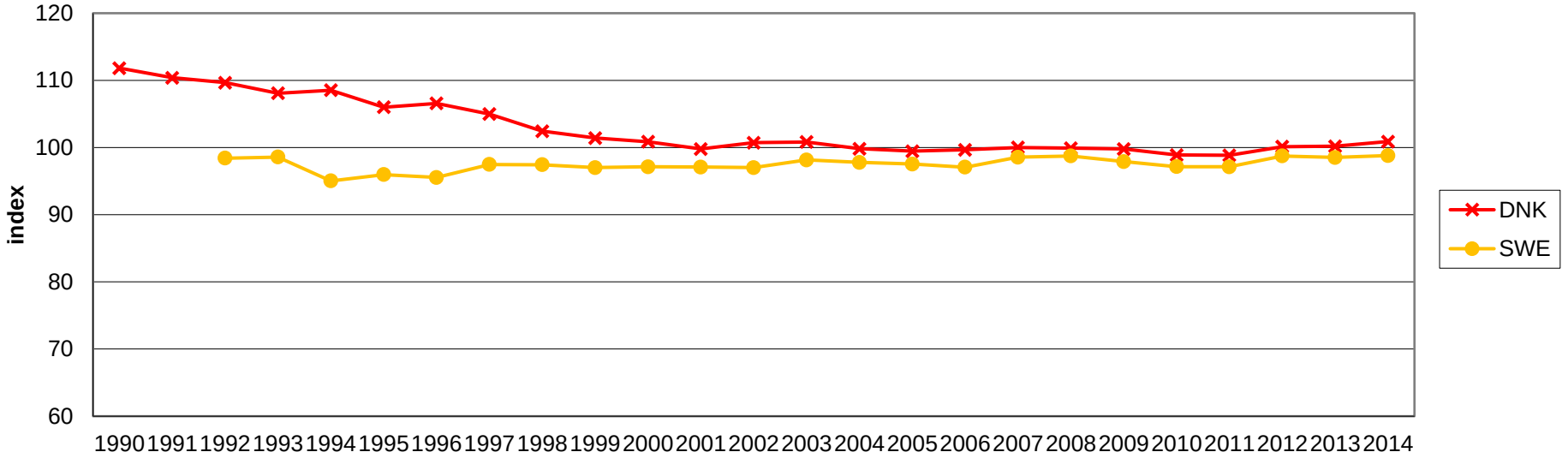
Genetic trend: fat kg index, JER cows

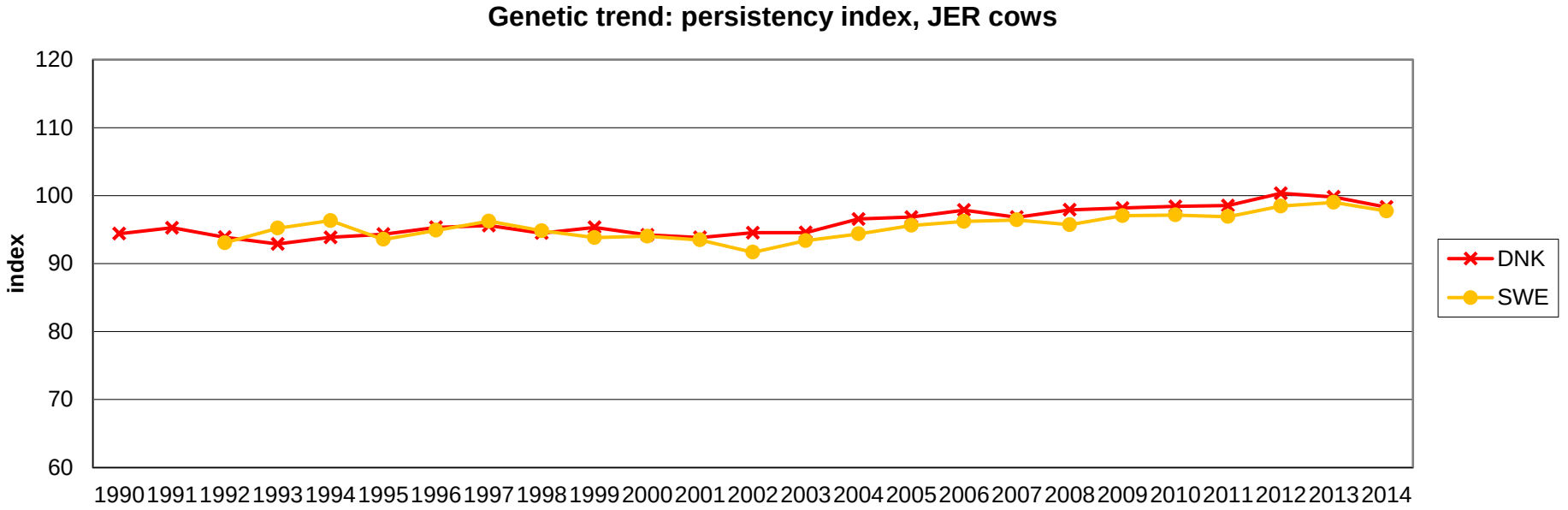


Genetic trend: protein% index, JER cows



Genetic trend: fat% index, JER cows




Genetic trend: persistency index, JER cows
index
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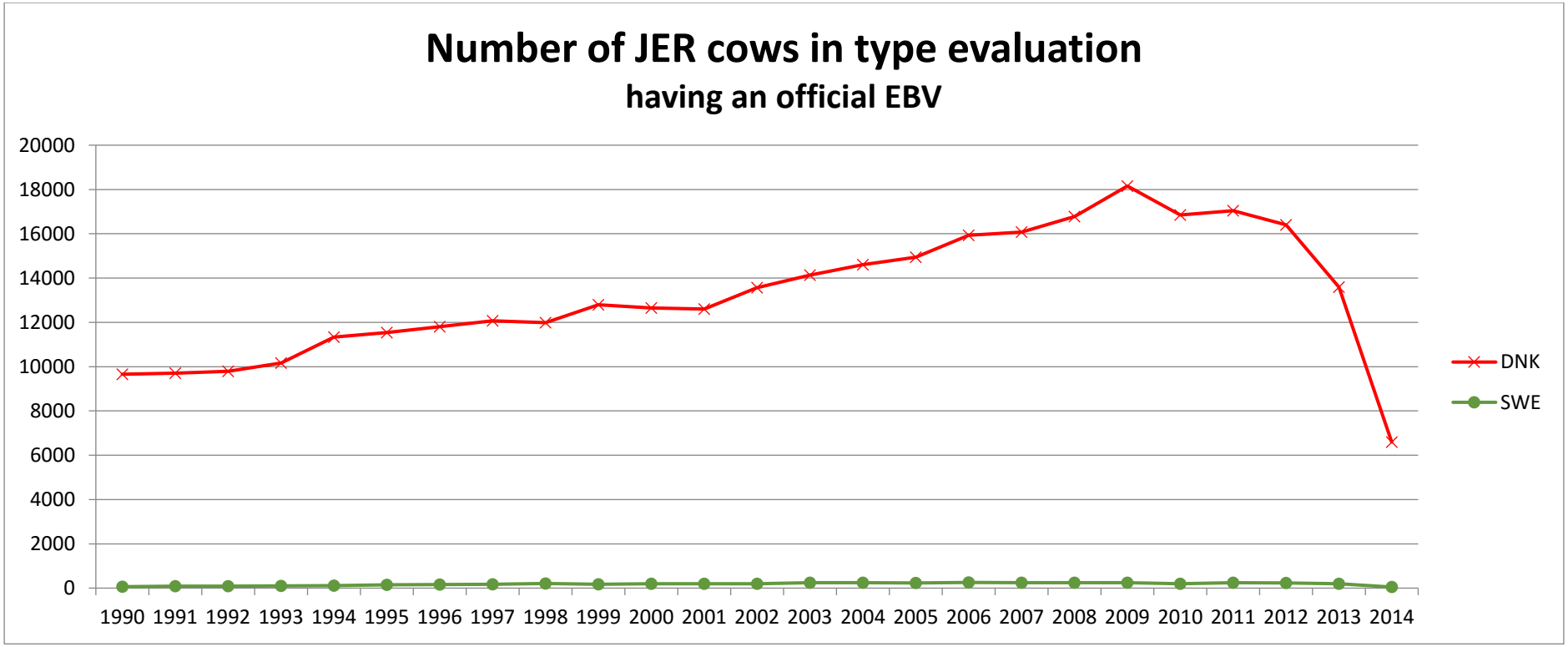
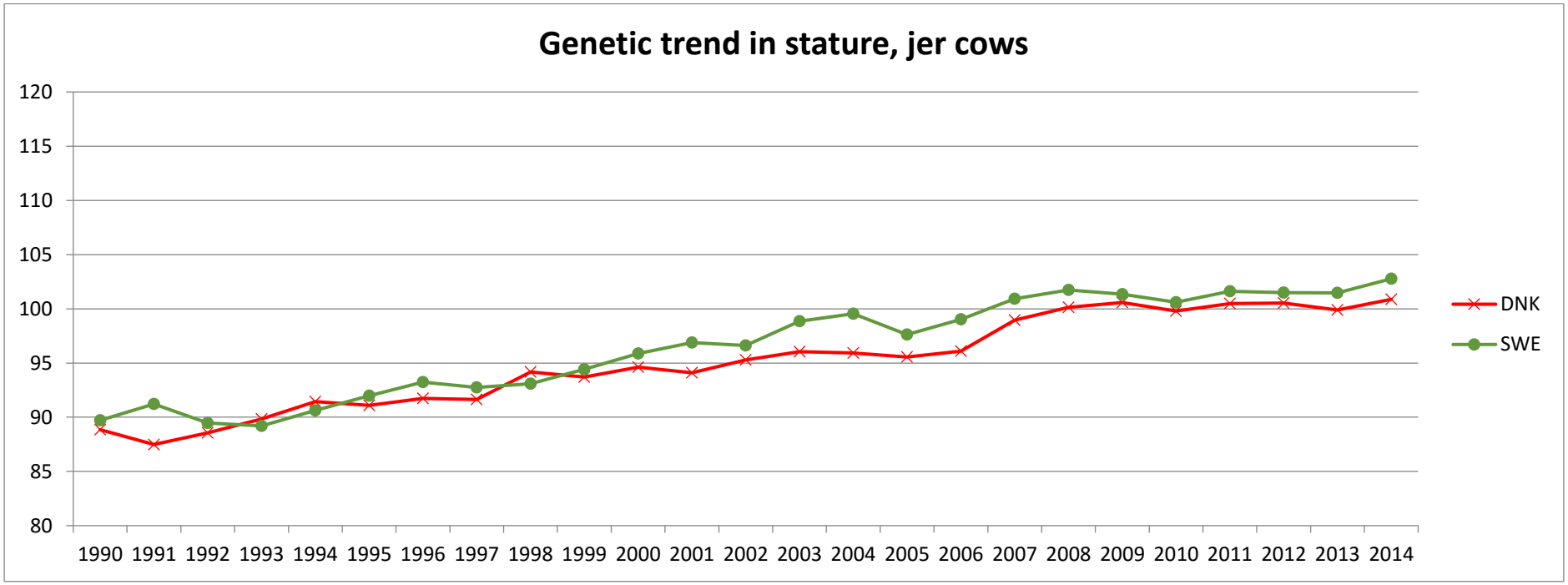
110
100
90
80
70
60
1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014
DNK
SWE


Number of JER cows in type evaluation
having an official EBV
20000
18000
16000
14000
12000
10000
8000
6000
4000
2000
0
1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014
DNK
SWE


Genetic trend in stature, jer cows
120
115
110
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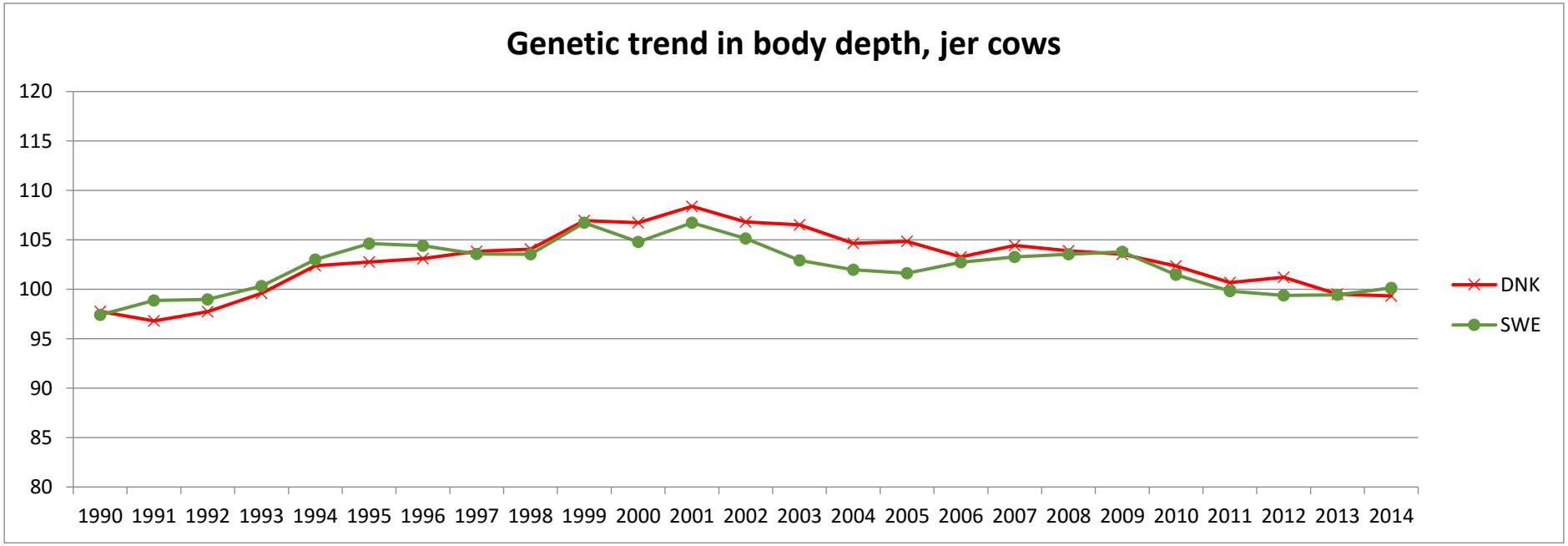
100
95
90
85
80
1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014
DNK
SWE


Genetic trend in body depth, jer cows
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115
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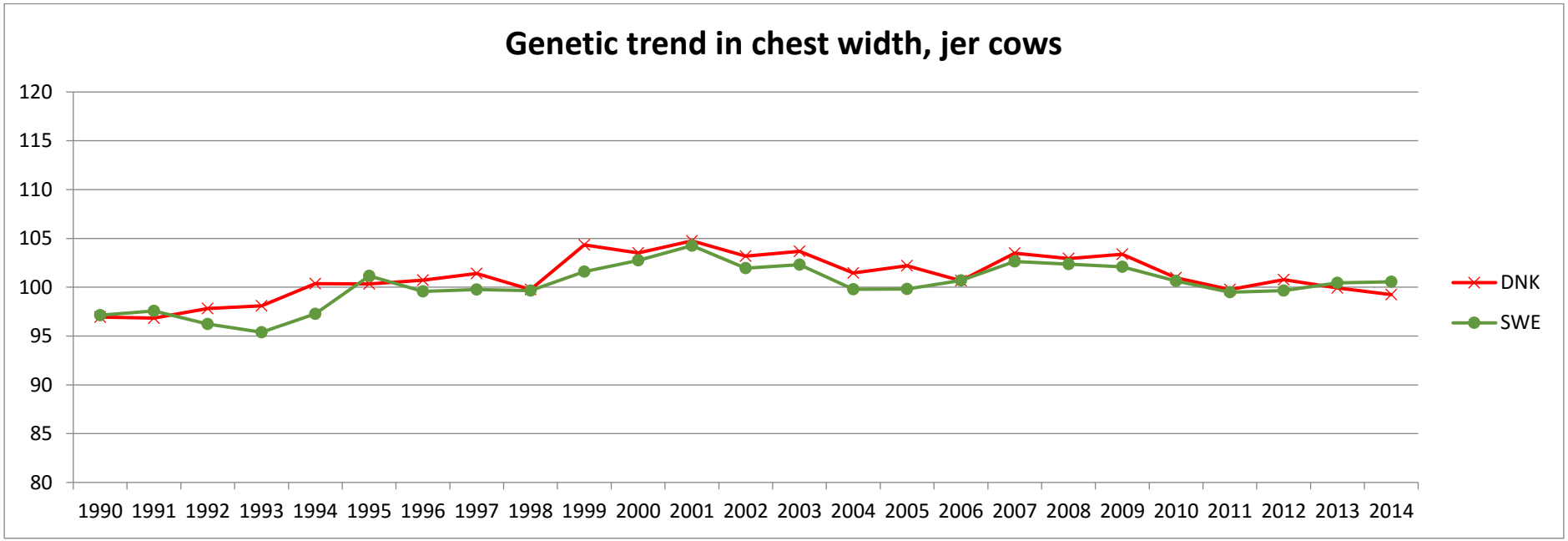
100
95
90
85
80
1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014
DNK
SWE


Genetic trend in chest width, jer cows
120
115
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95
90
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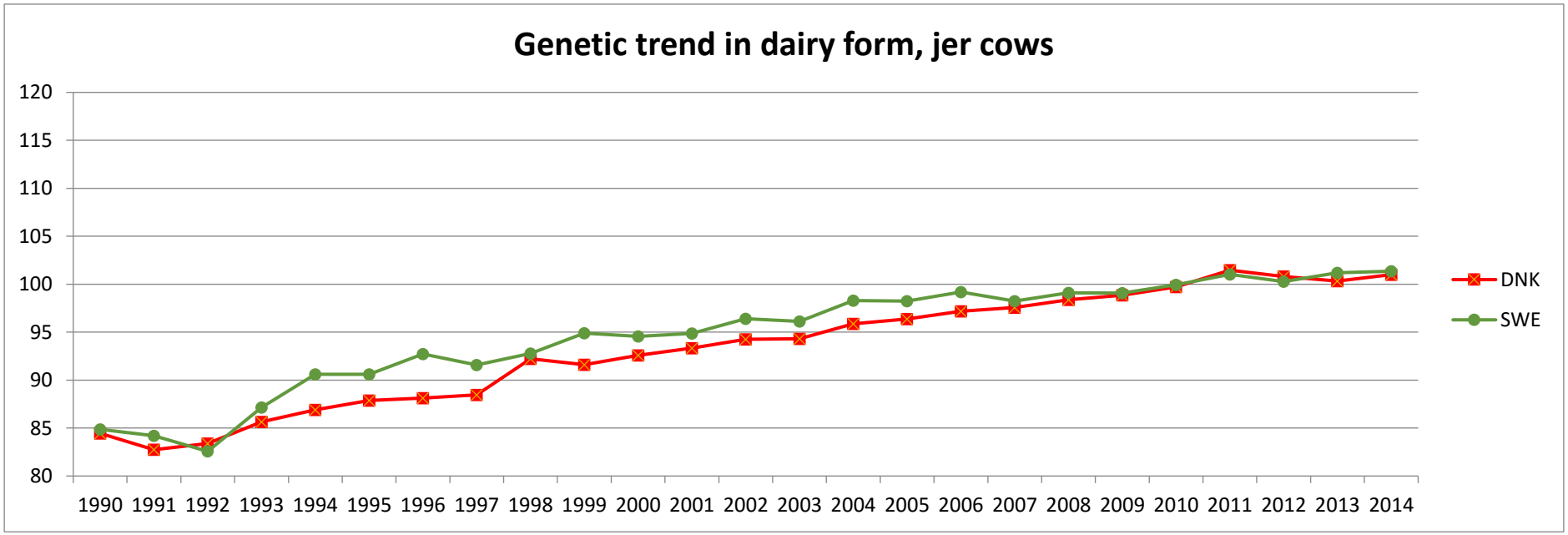
80
1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014
DNK
SWE


Genetic trend in dairy form, jer cows
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95
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1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014
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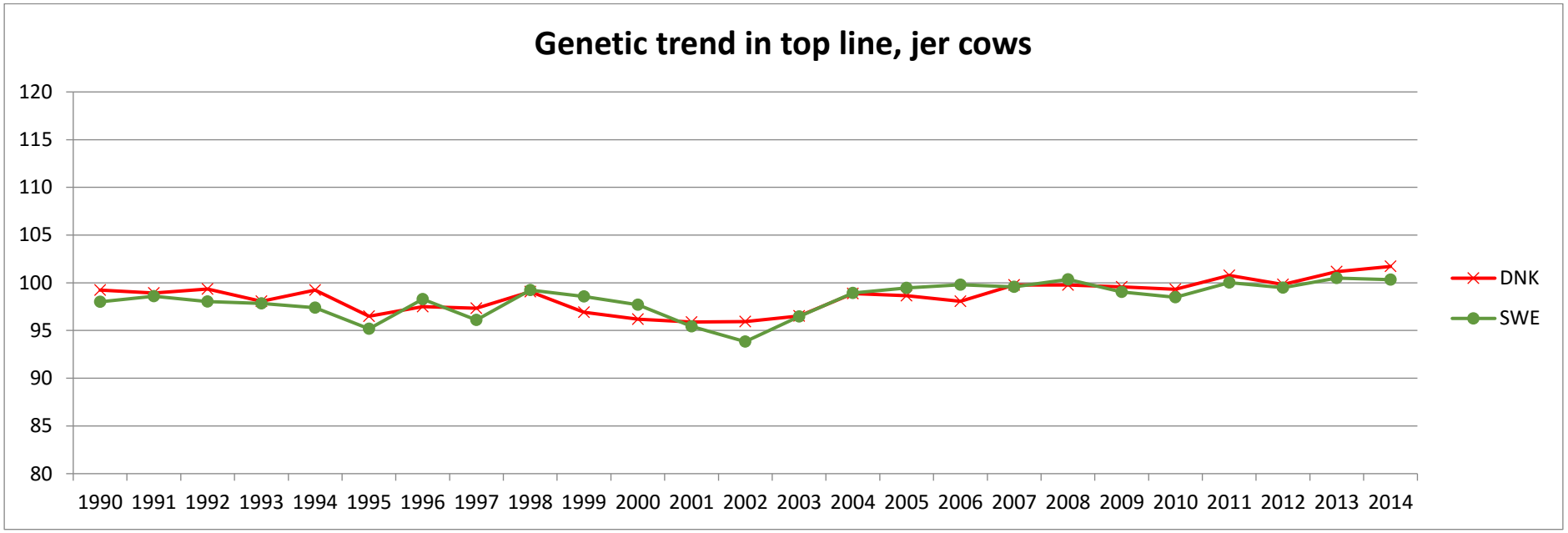
SWE


Genetic trend in top line, jer cows
120
115
110
105
100
95
90
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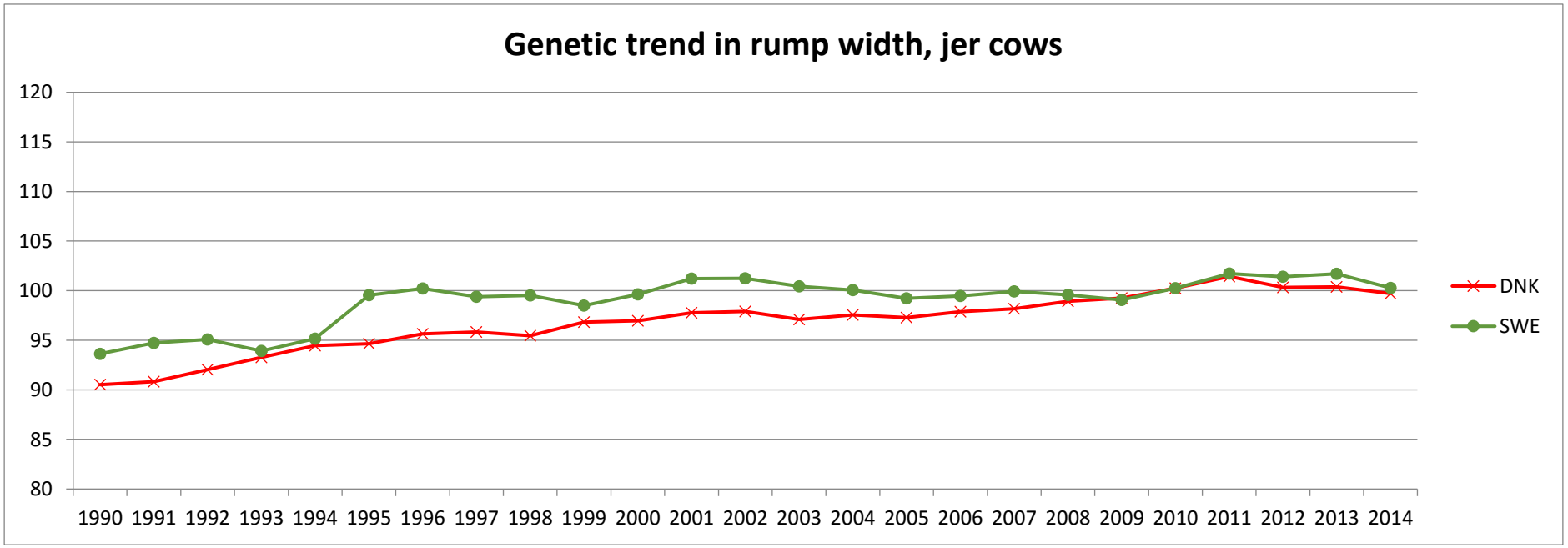
80
1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014
DNK
SWE


Genetic trend in rump width, jer cows
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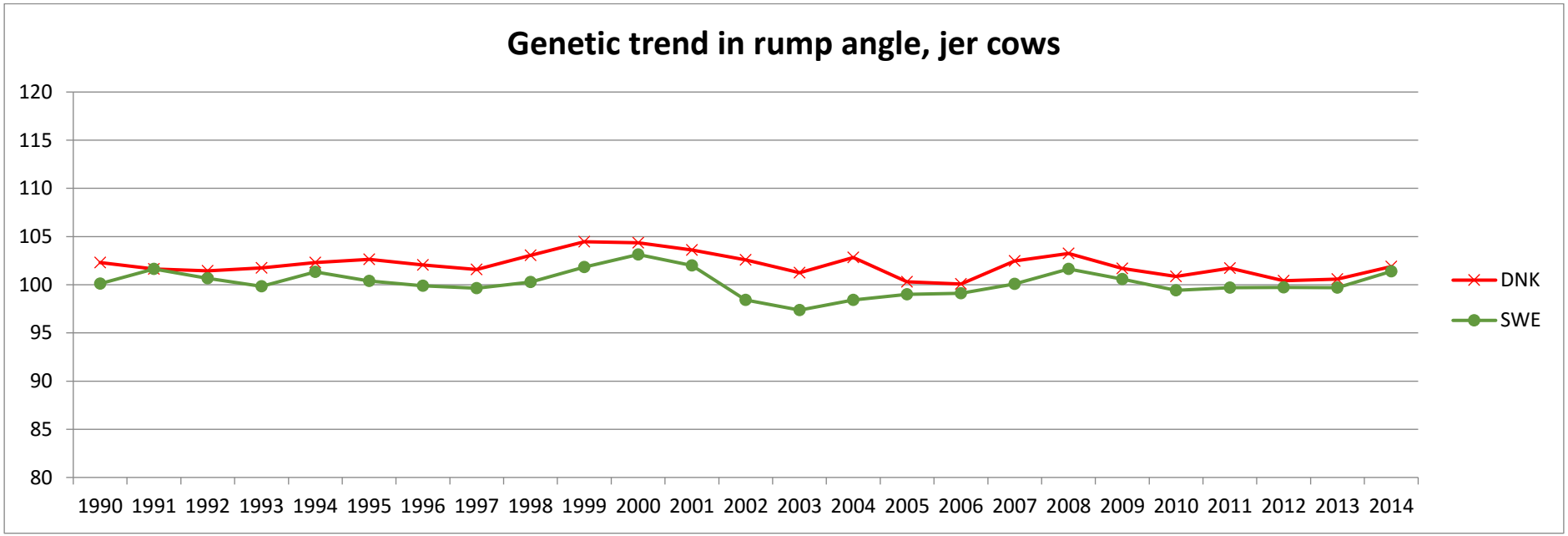
80
1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014
DNK
SWE


Genetic trend in rump angle, jer cows
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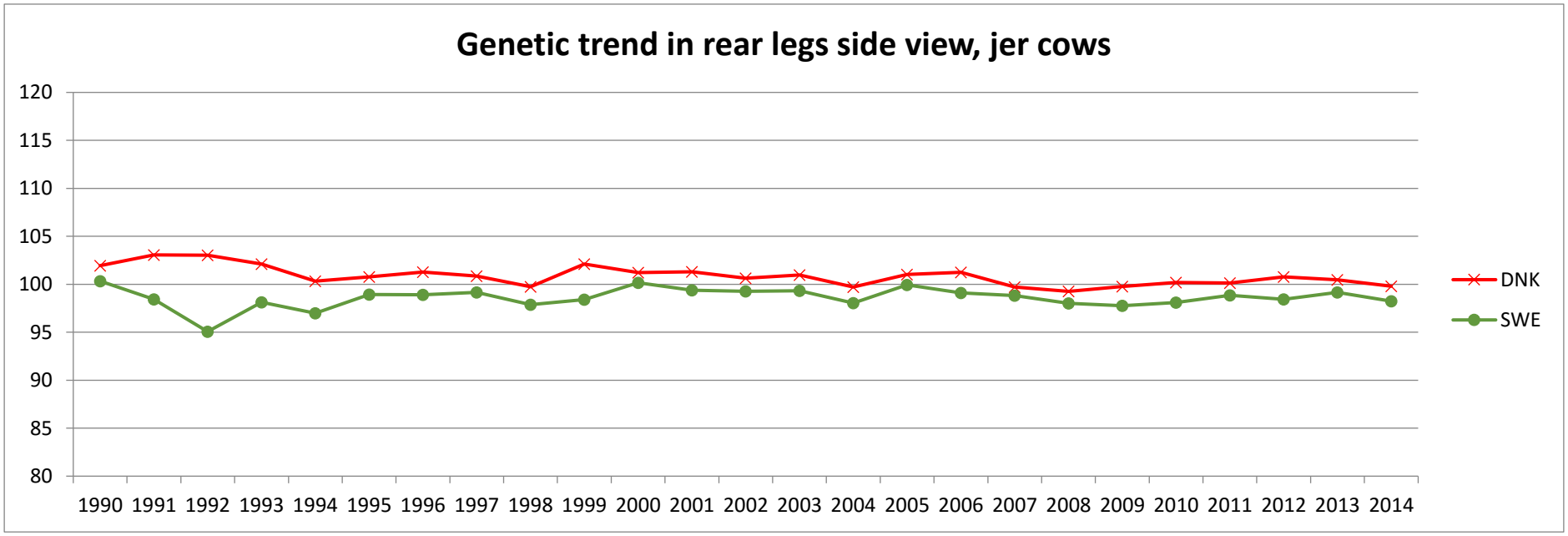
Genetic trend in rear legs side view, jer cows
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90
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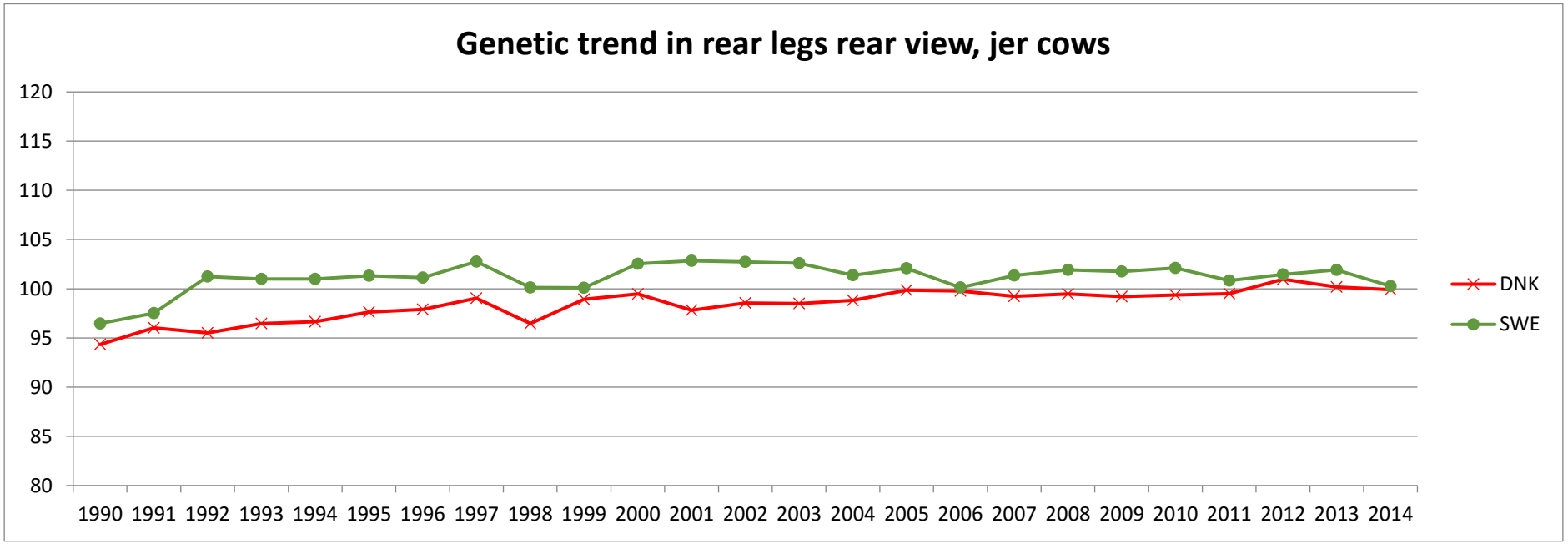
80
1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014
DNK
SWE


Genetic trend in rear legs rear view, jer cows
120
115
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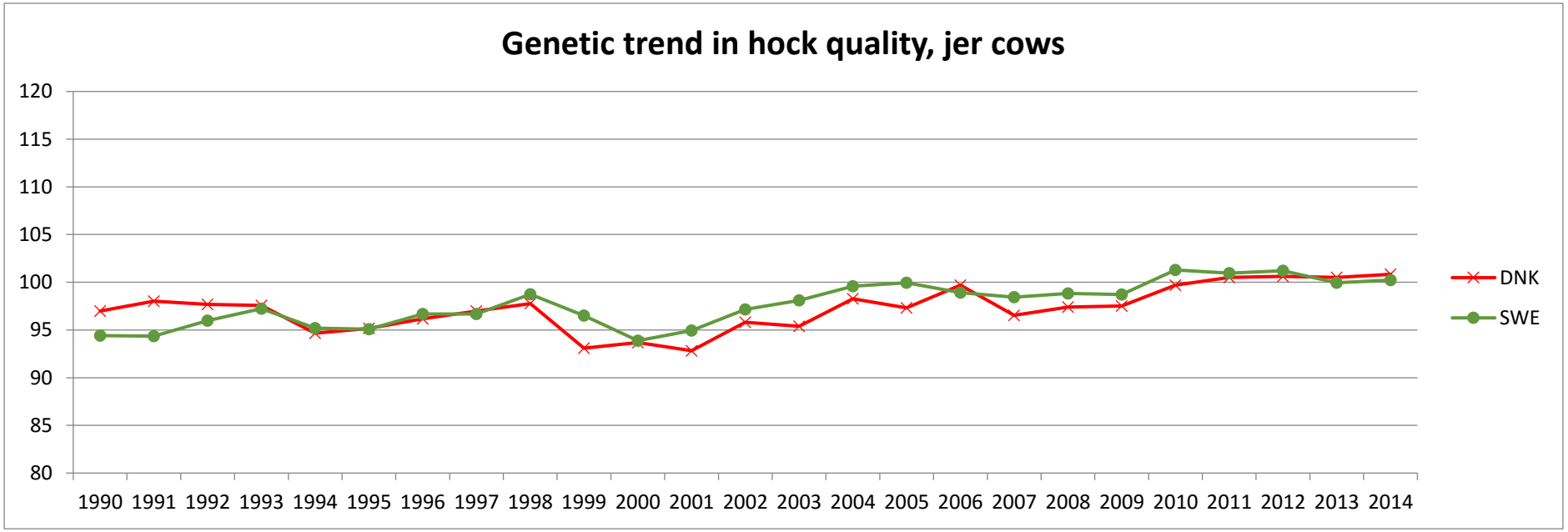
1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014
DNK
SWE


Genetic trend in hock quality, jer cows
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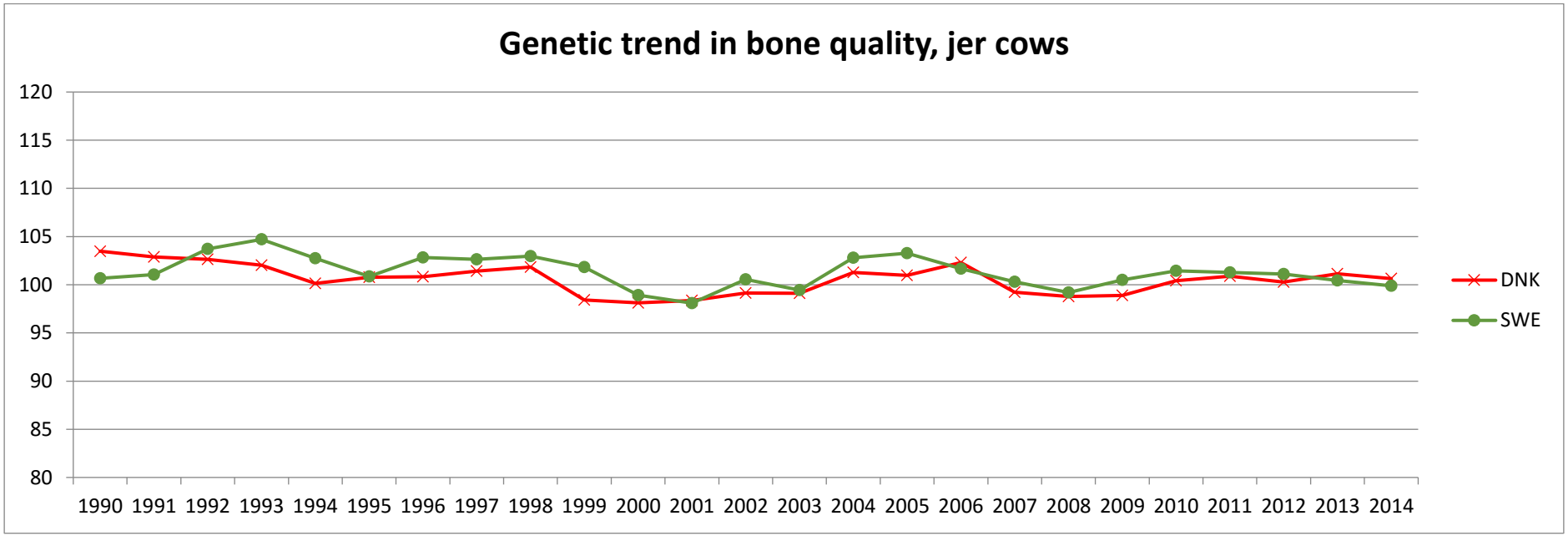
1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014
DNK
SWE


Genetic trend in bone quality, jer cows
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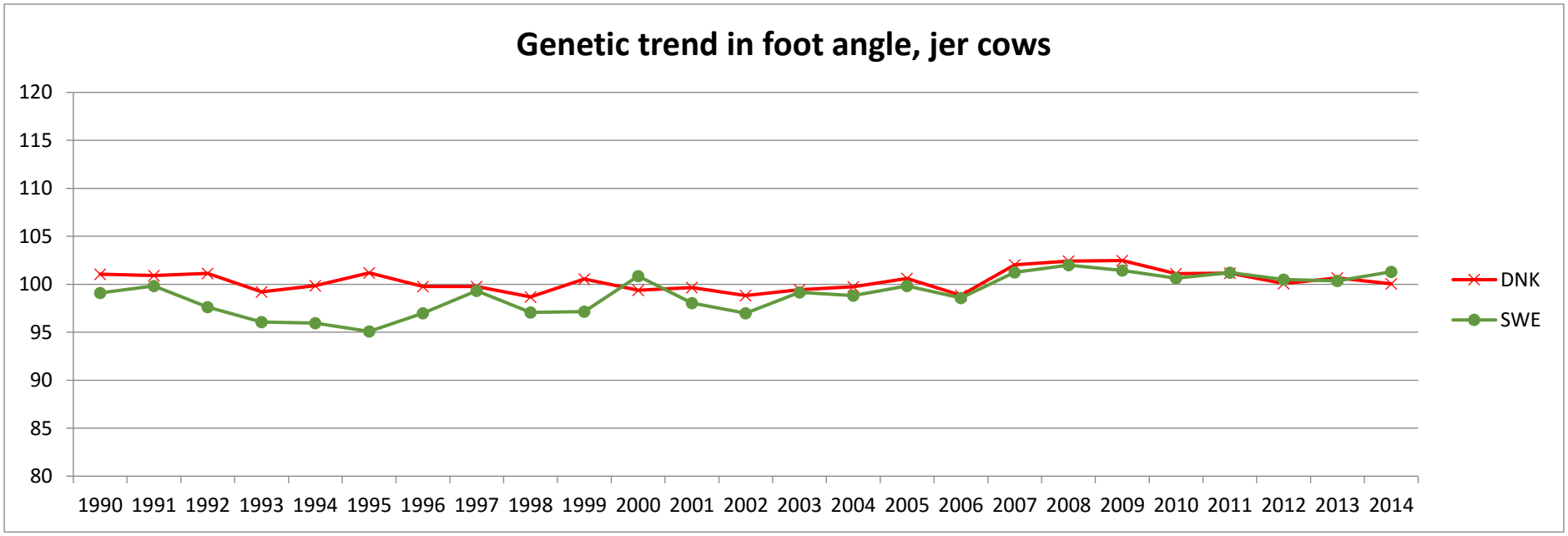
1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014
DNK
SWE


Genetic trend in foot angle, jer cows
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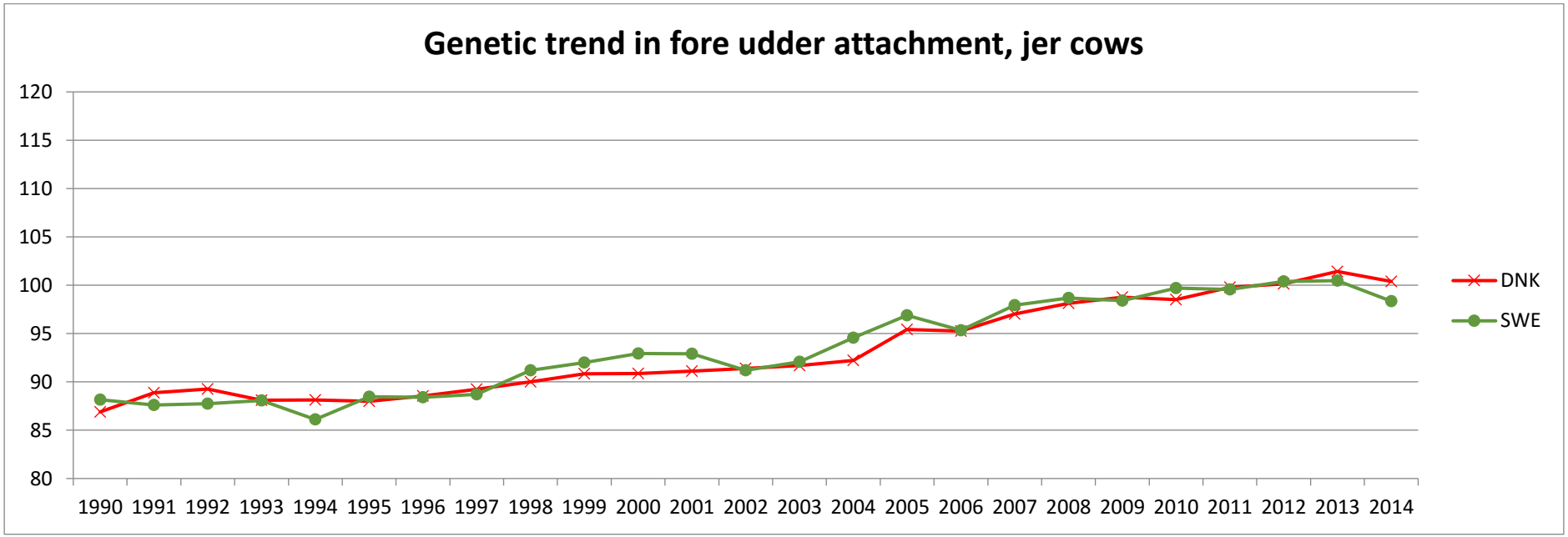
1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014
DNK
SWE


Genetic trend in fore udder attachment, jer cows
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90
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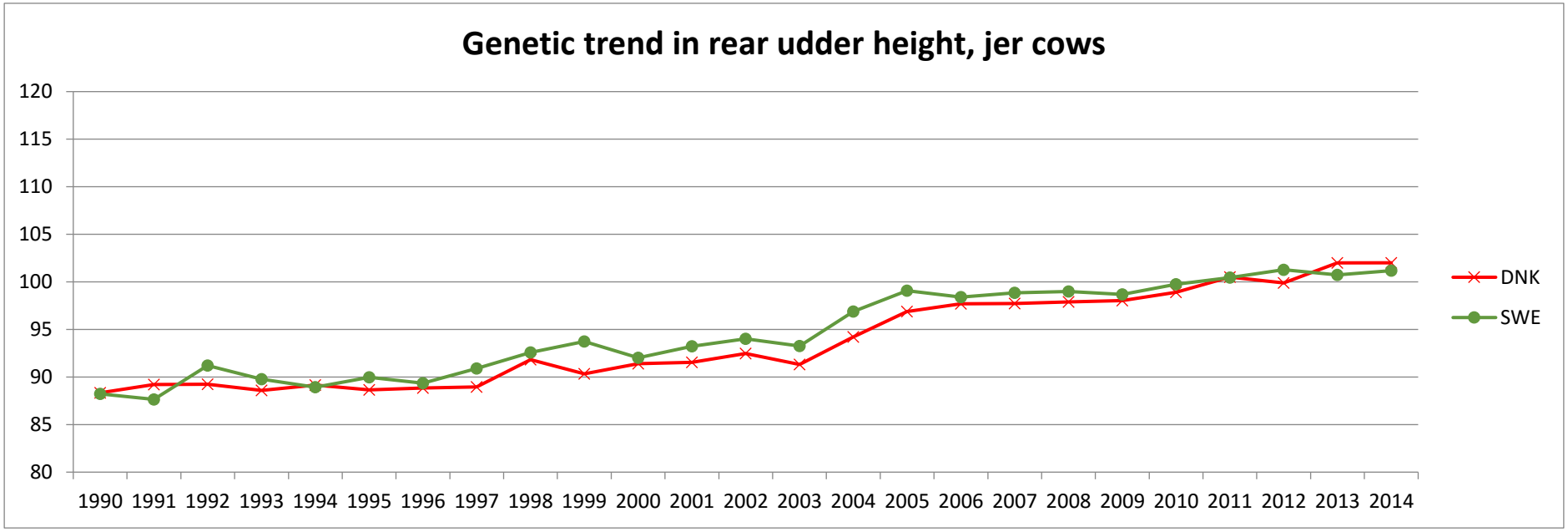
80
1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014
DNK
SWE


Genetic trend in rear udder height, jer cows
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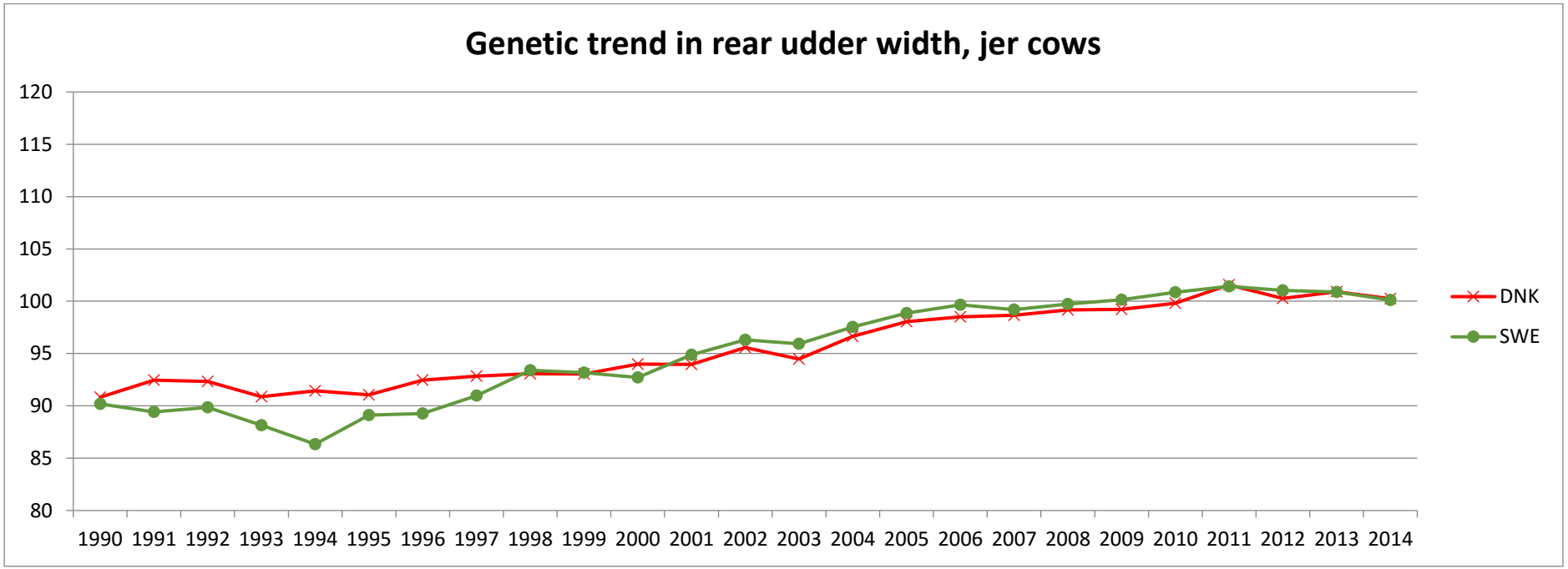
1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014
DNK
SWE


Genetic trend in rear udder width, jer cows
120
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90
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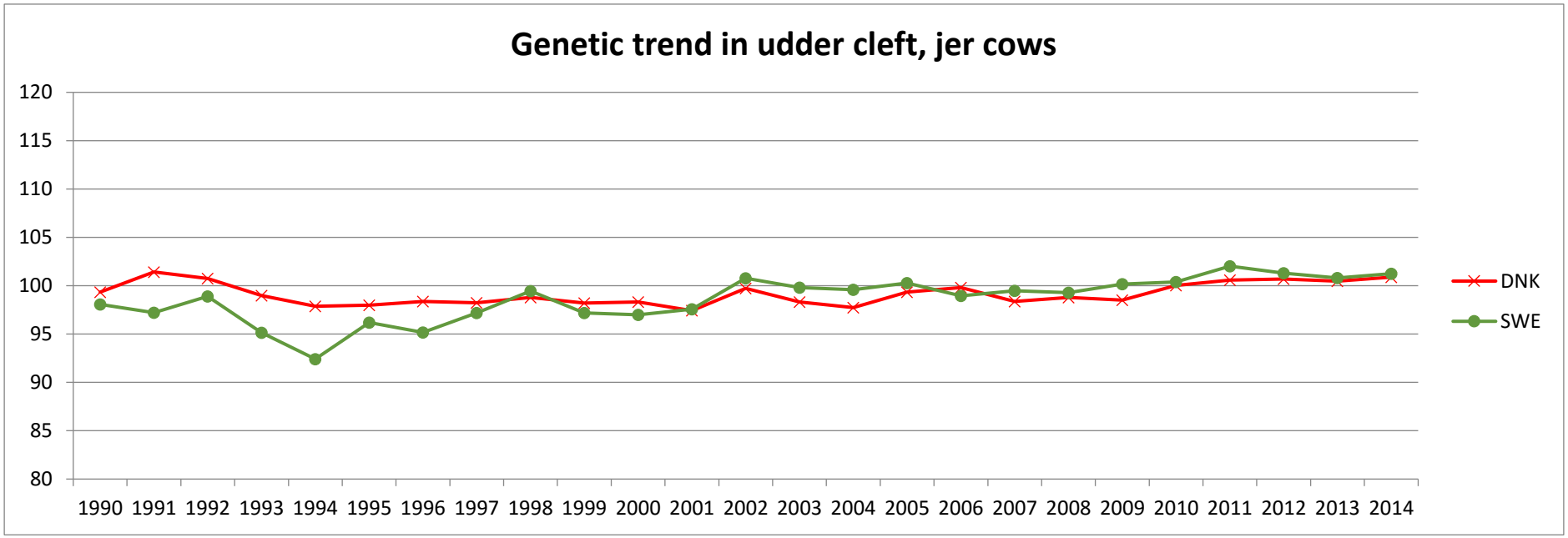
80
1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014
DNK
SWE


Genetic trend in udder cleft, jer cows
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95
90
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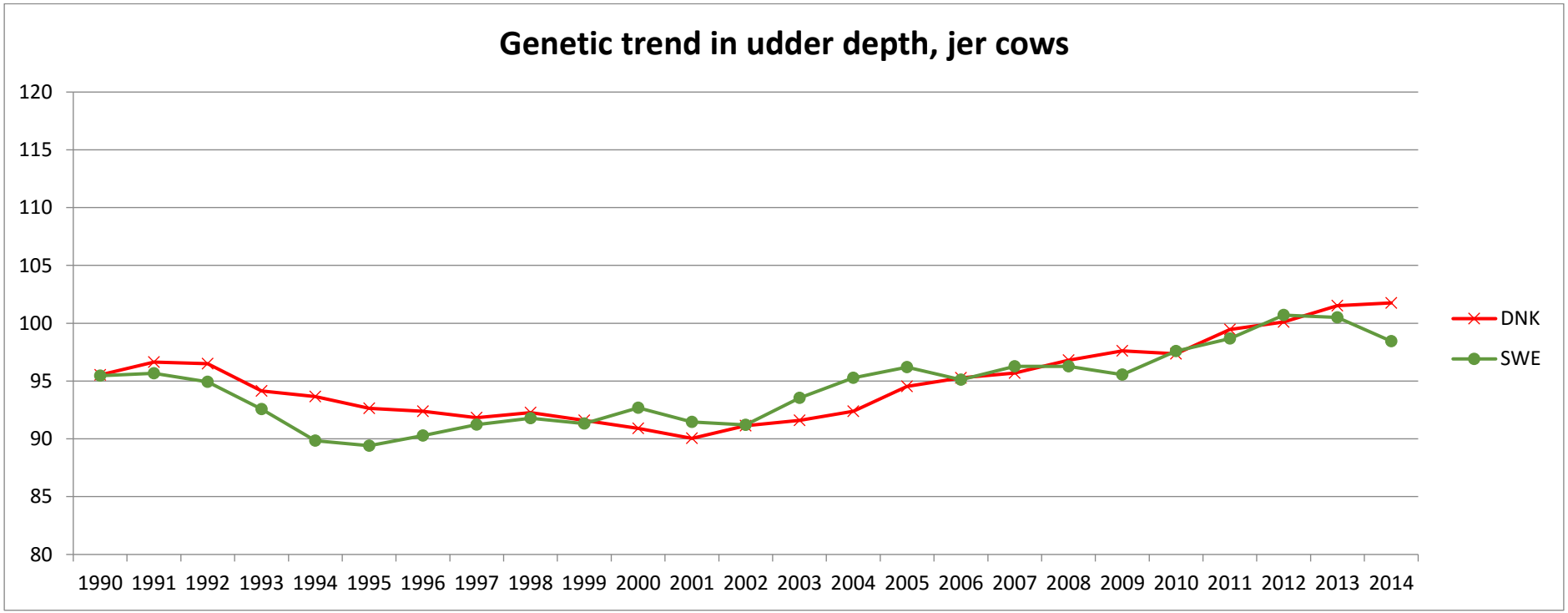
1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014
DNK
SWE


Genetic trend in udder depth, jer cows
120
115
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105
100
95
90
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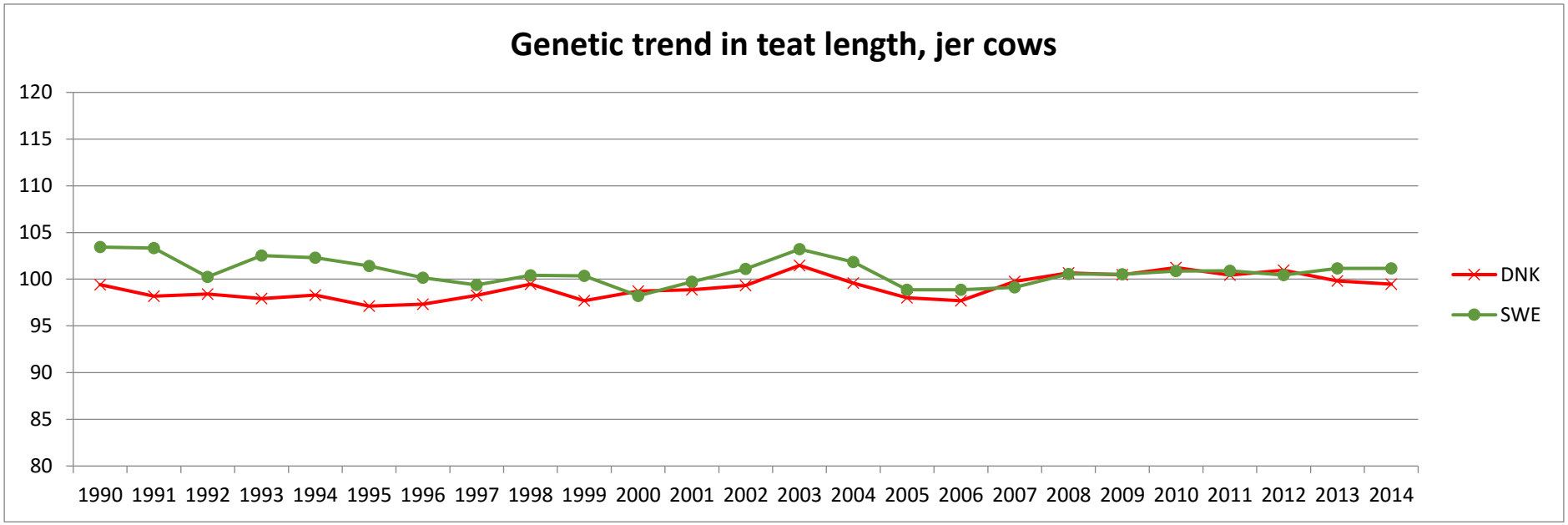
80
1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014
DNK
SWE


Genetic trend in teat length, jer cows
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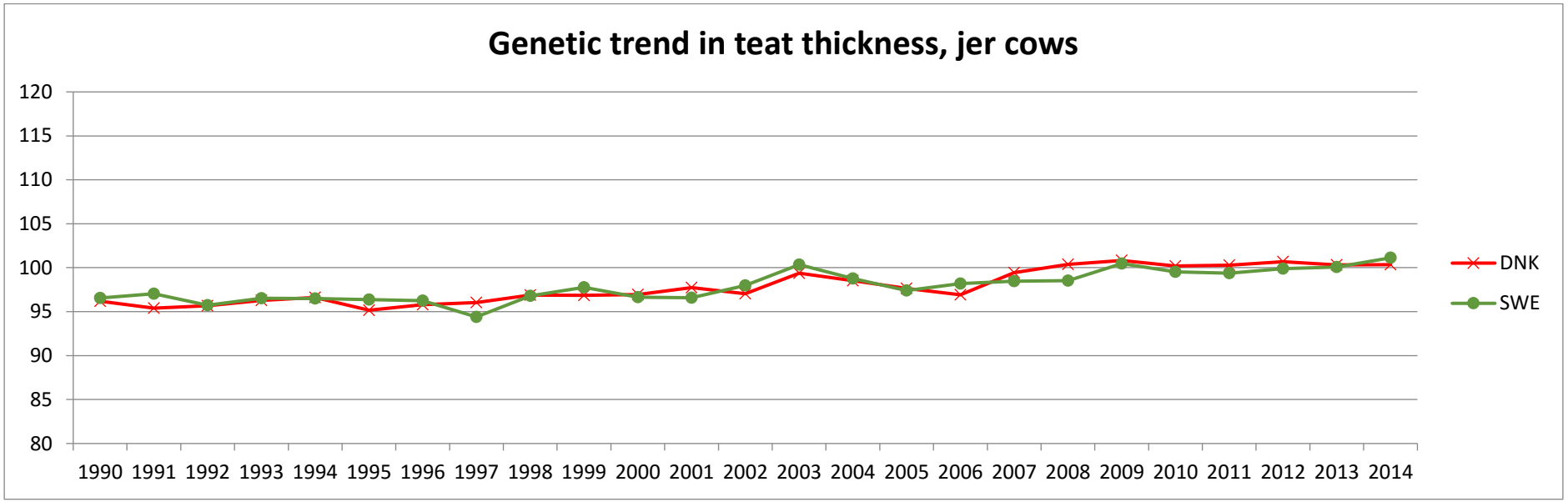
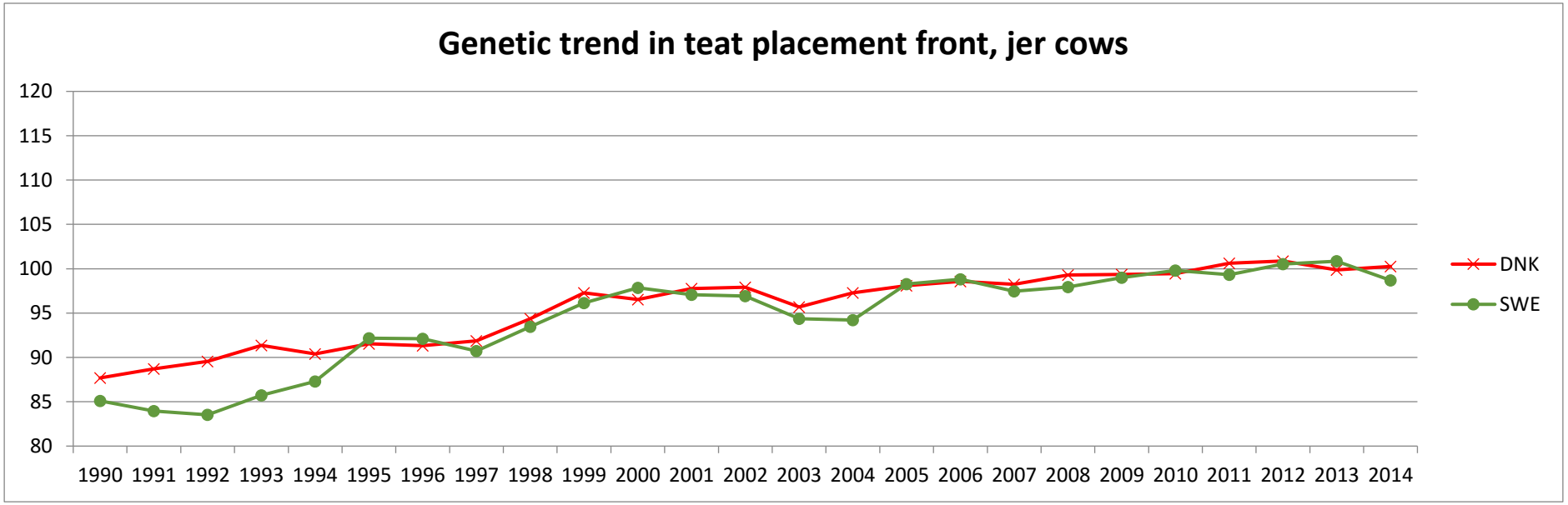
115
110
105
100
95
90
85
80
1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014
DNK
SWE


Genetic trend in teat thickness, jer cows
120
115
110
105
100
95
90
85
80
1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014
DNK
SWE


Genetic trend in teat placement front, jer cows
120
115
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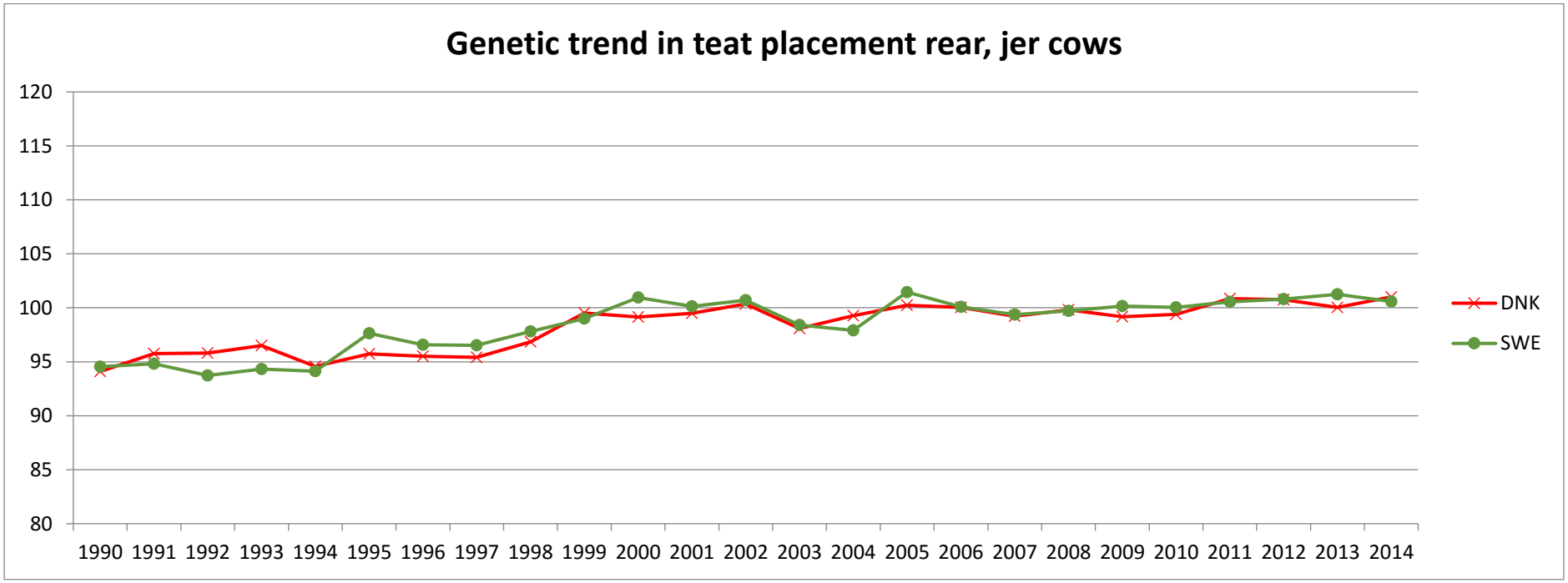
Genetic trend in teat placement rear, jer cows
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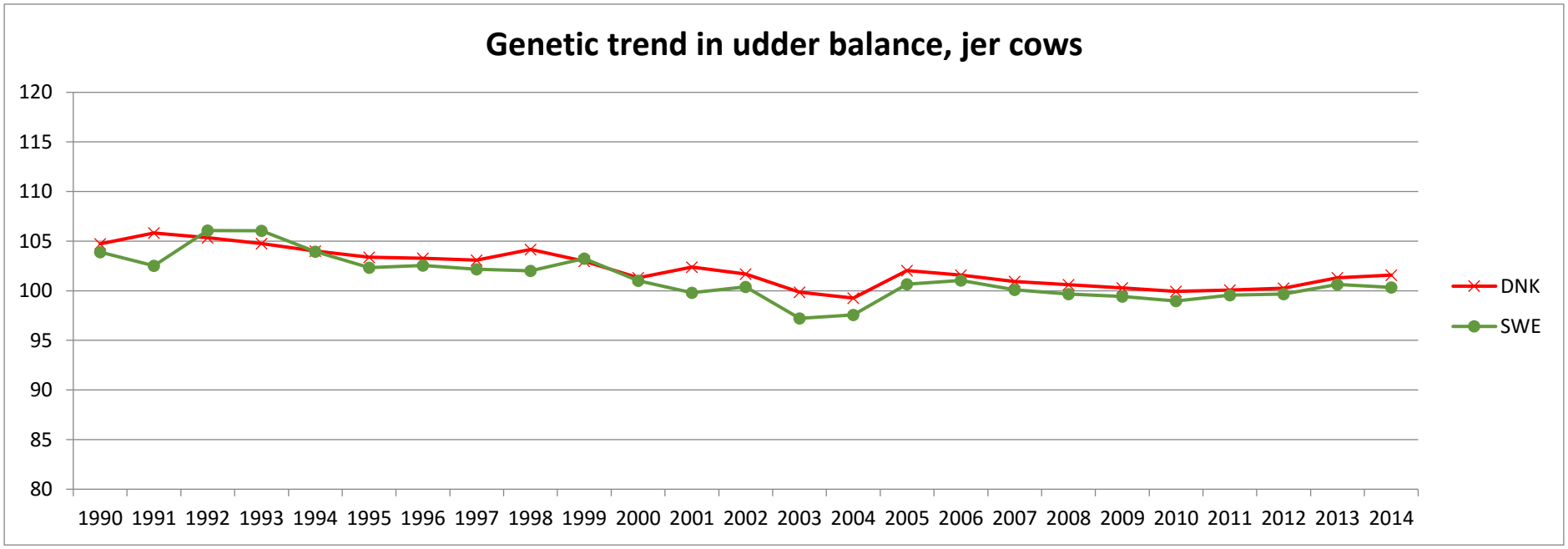
Genetic trend in udder balance, jer cows
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DNK
SWE

Comparison of current JER optimum values for conformation traits and classification scores from 2016 (until December)

number of scorings		13922	204
traits	**optimum**	DNK	SWE
1. Stature	**129**	128.6	129.6
2. Body depth	**6**	5.8	5.5
3. Chest width	**5**	4.8	5.1
4. Dairy form	**6**	5.0	5.2
5. Top line	**7**	6.0	6.0
6. Rump width	**6**	4.8	4.9
7. Rump angle	**5**	5.2	5.0
8. Rear legs, side view	**5**	5.4	5.2
9. Rear legs, rear view	**9**	6.0	6.2
10. Hock quality	**9**	6.0	6.5
11. Bone quality	**9**	6.7	7.3
12. Foot angle	**6.5**	4.6	4.7
14. Fore udder attachment	**9**	5.2	5.4
15. Rear udder height	**9**	6.1	6.2
16. Rear udder width	**9**	5.3	5.8
17. Udder cleft/support	**9**	5.0	5.3
18. Udder depth	**9**	5.2	6.0
19. Teat length	**5.5**	5.0	5.3
20. Teat thickness	**6**	4.8	4.8
21. Teat placement (front)	**7.5**	4.8	4.7
22. Teat placement (back)	**5**	5.6	5.6
23. Udder balance	**5**	5.1	5.0