



syngenta

## Comparative trial of malting barley varieties (standard variety - Scarlett)

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Lipetsk, 25.10.2012

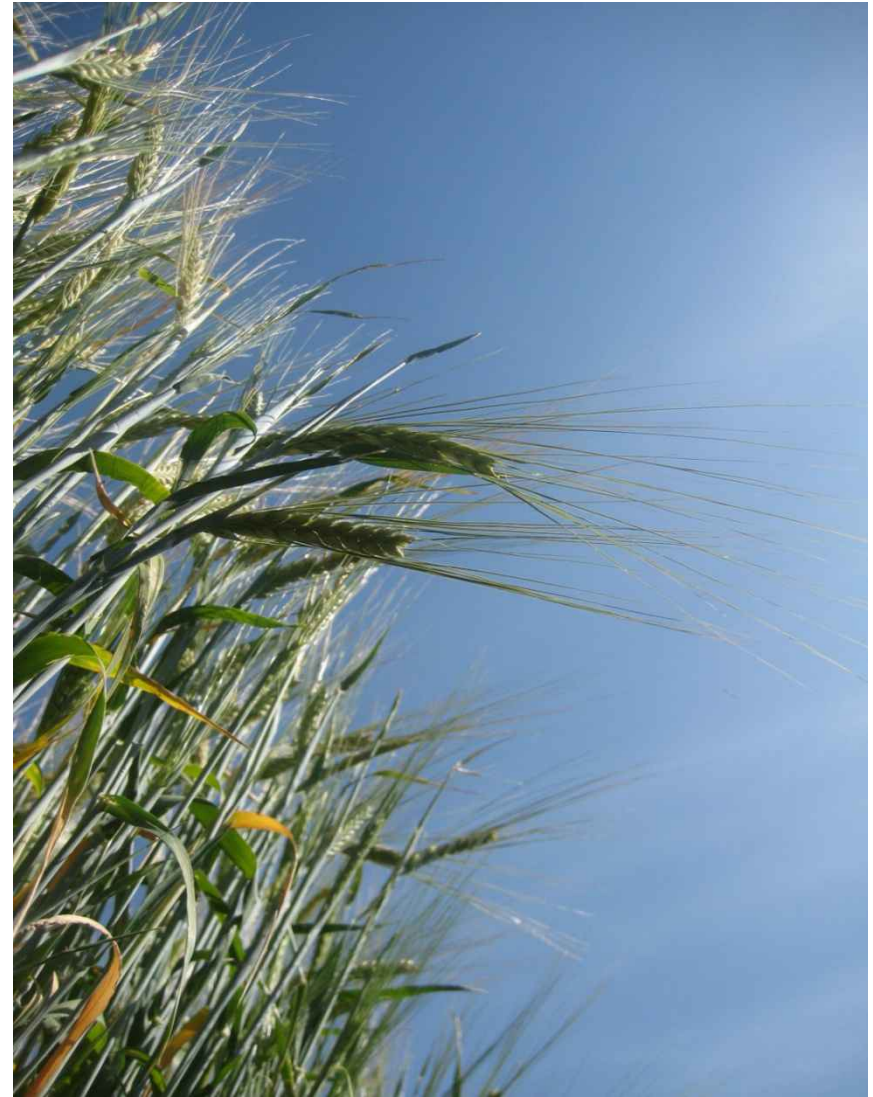


# Scheme of the trial on establishment of malting barley varieties

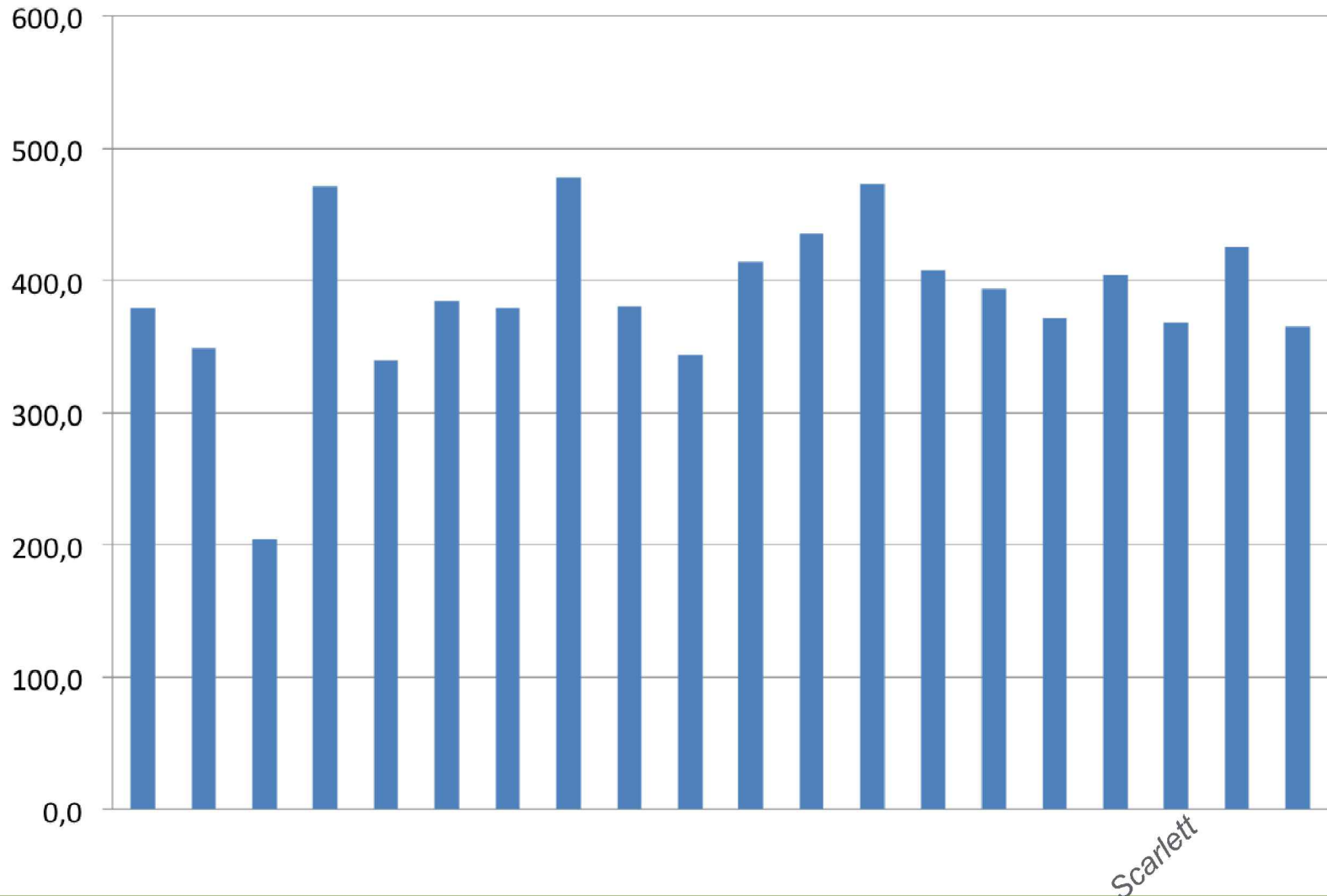
about 50 m		3	15	11	5	9	16	4	7	2	20	14	6	10	13	17	19	18	1	12	8	4th	repeat	
																							3rd	repeat
																							2nd	repeat
			18	13	6	12	20	1	3	17	15	4	7	19	5	11	9	2	10	8	14	16	1st	repeat
10 m		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20			
2 m																								
	1 m																							
22 meters																								

# Dates of phenological phases of the development:

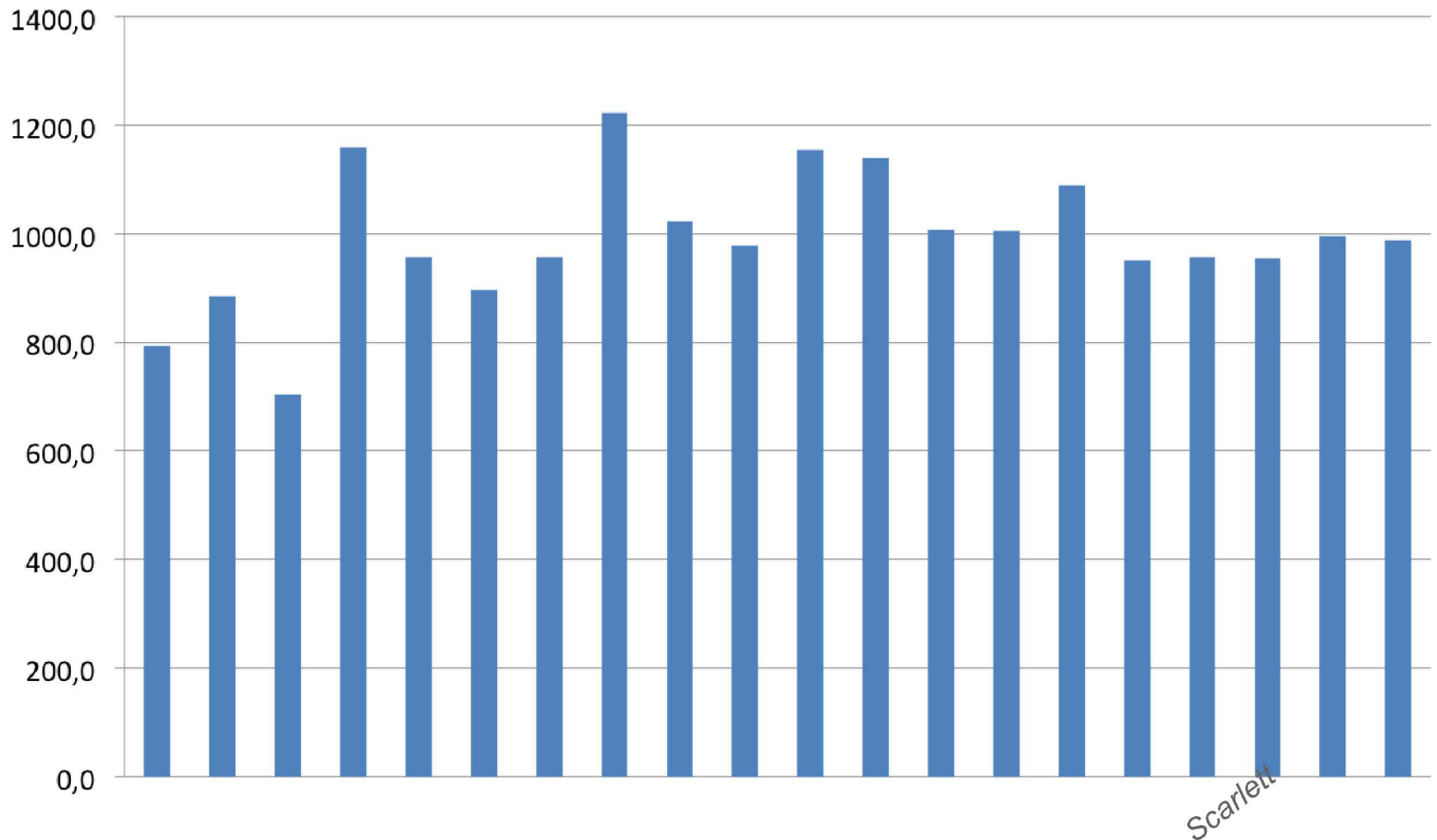
<b>Sowing</b>	<b>29.04.2012</b>
<b>Sprouting</b>	<b>05.05.2012</b>
<b>Tillering</b>	<b>19.05.2012</b>
<b>Flag leaf</b>	<b>10.06.2012</b>
<b>Earing</b>	<b>20.06.2012</b>
<b>Harvesting</b>	<b>31.07.2012</b>



# Number of seedlings, pcs/sq.m

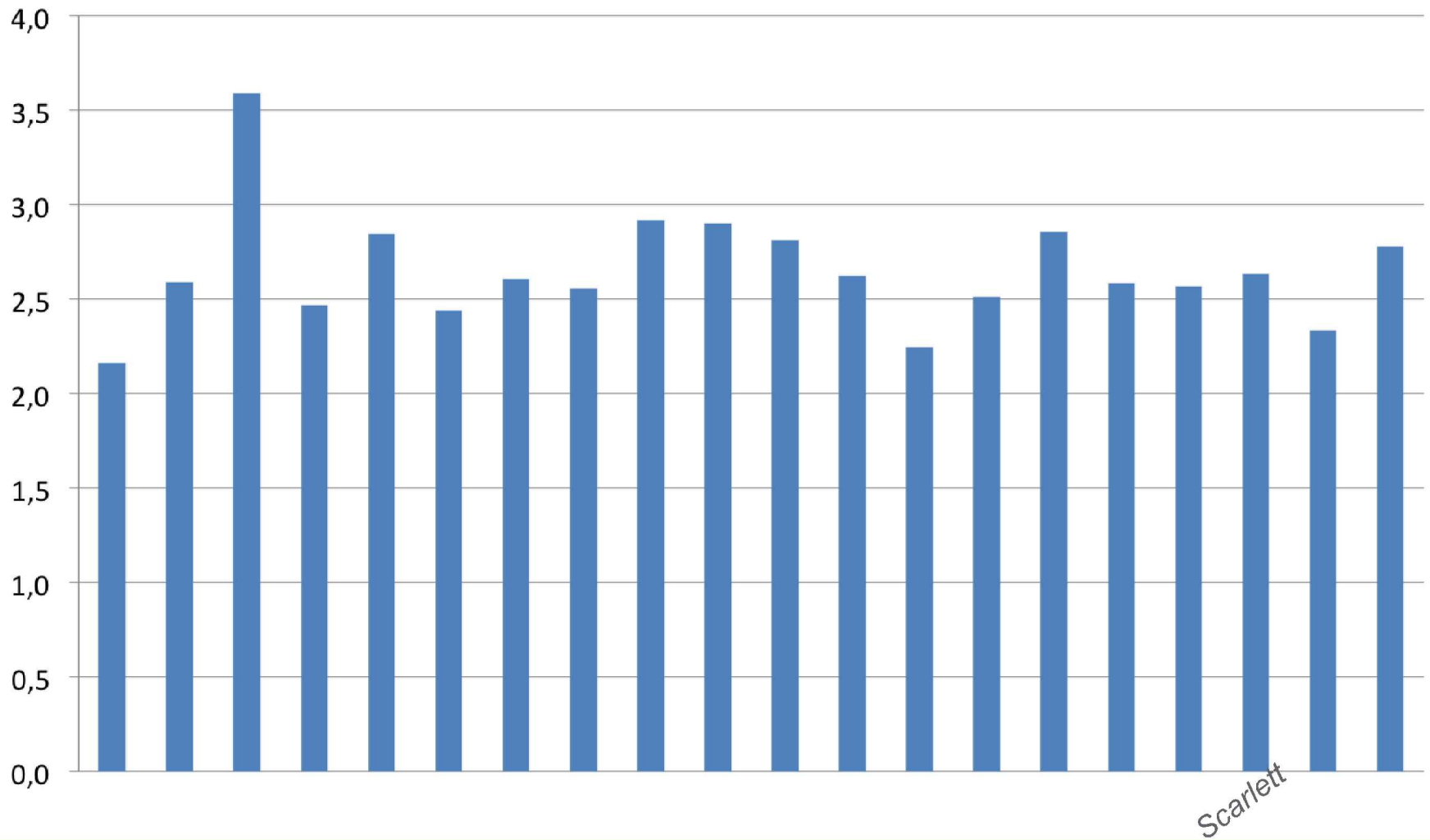


## Number of sprouts, pcs/sq.m



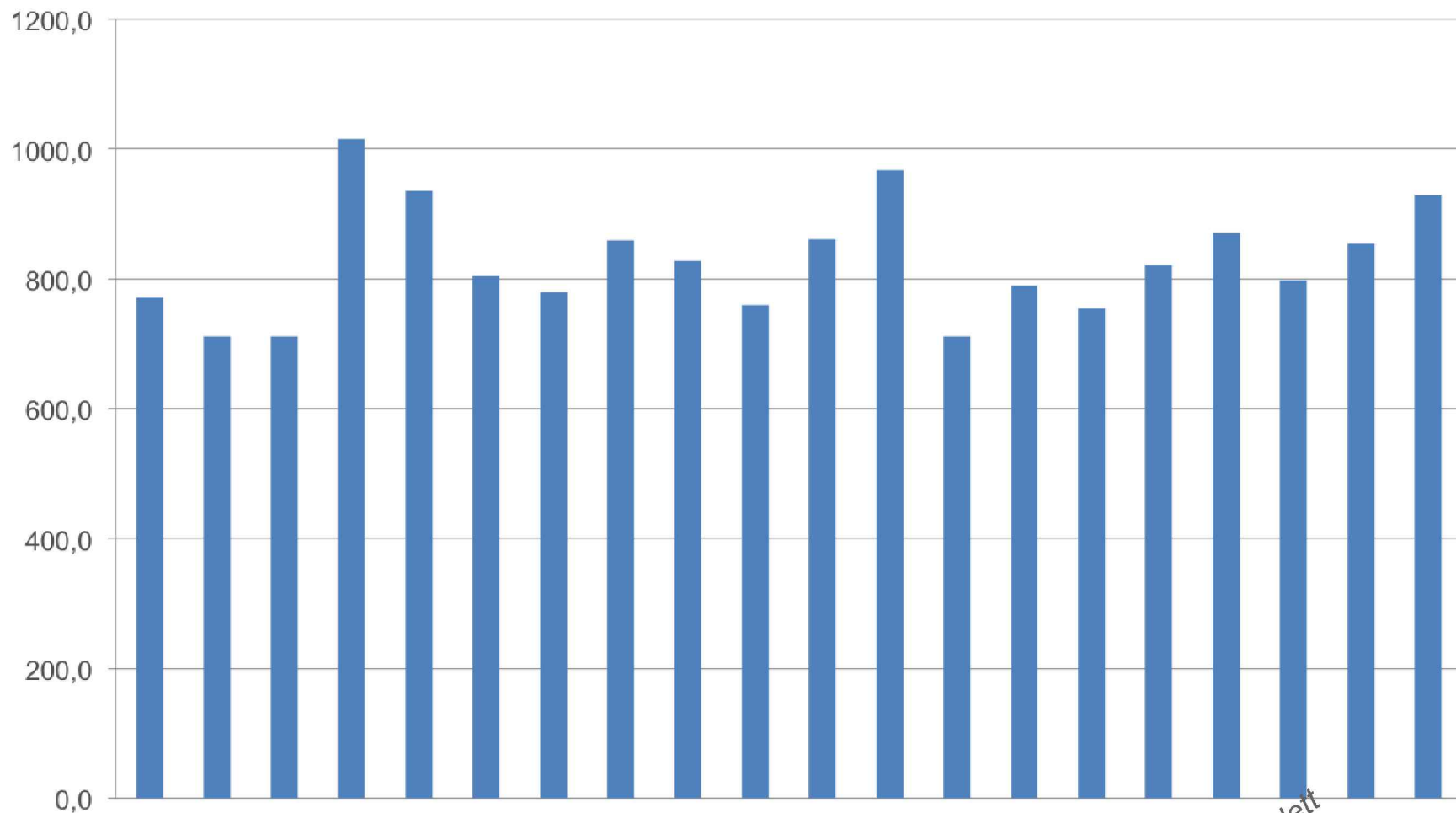


# Coefficient of barley varieties tillering



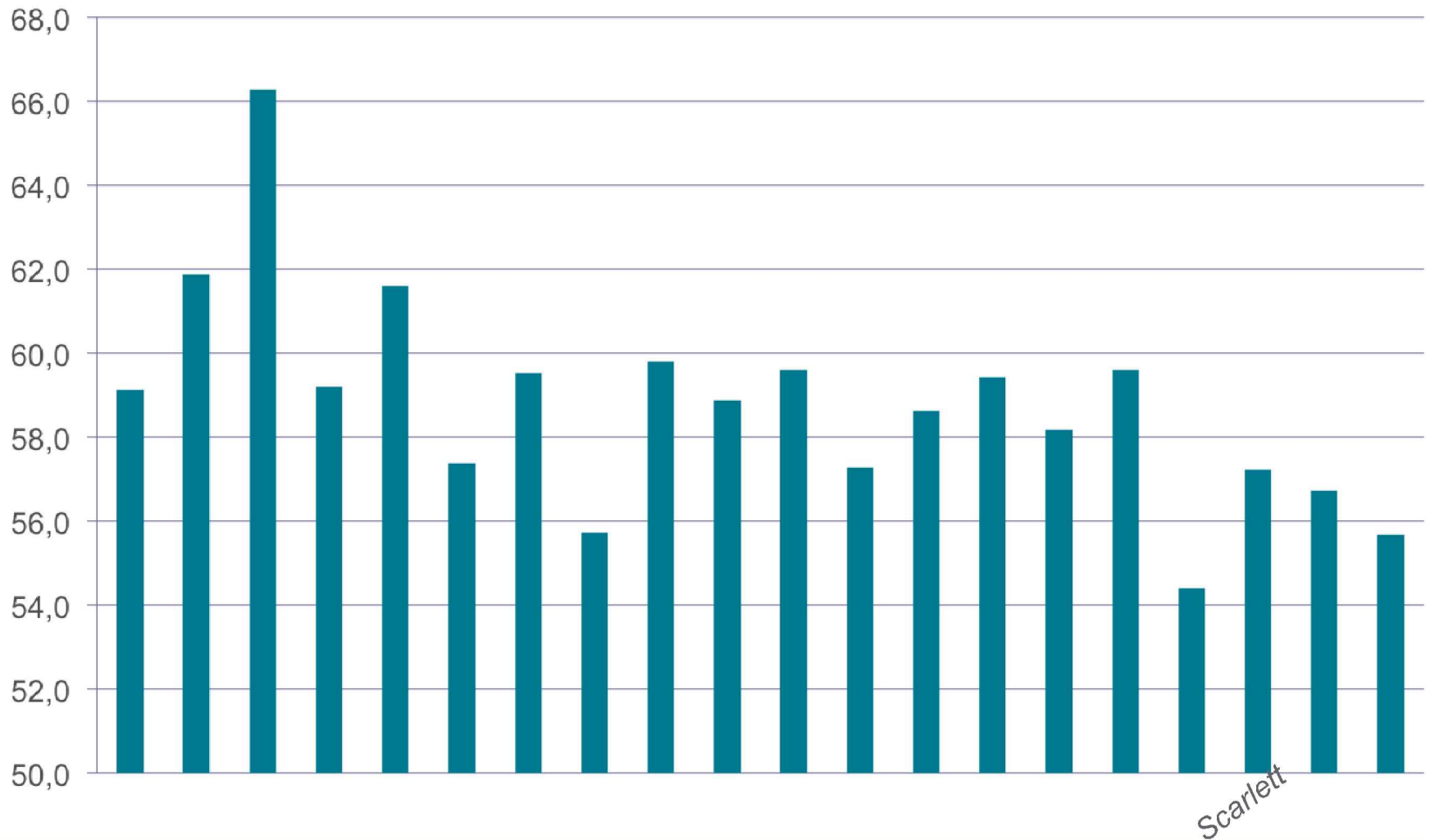


# Number of ears, pcs/sq.m



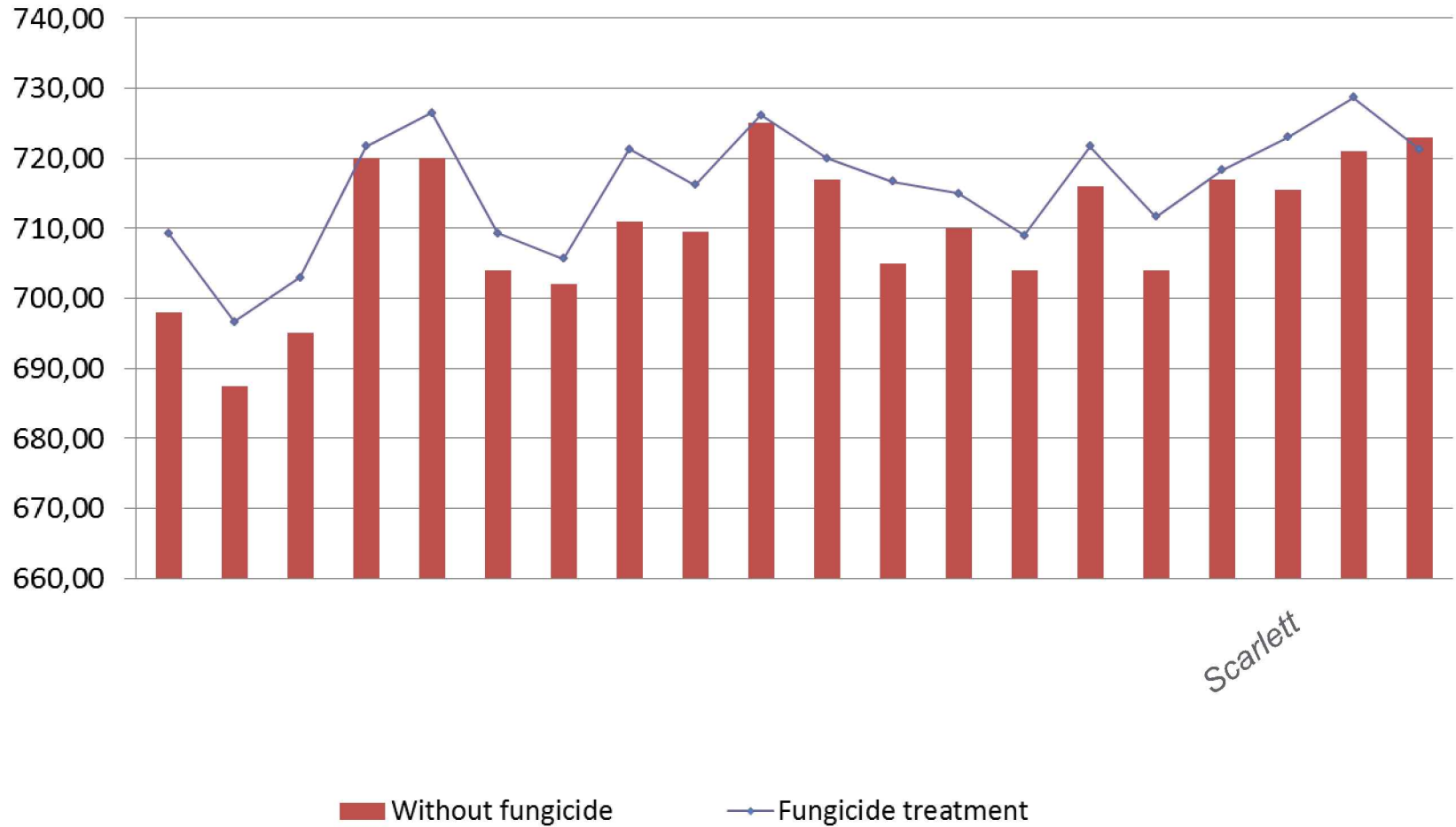
Scarlett

# Height of plants of barley varieties, cm



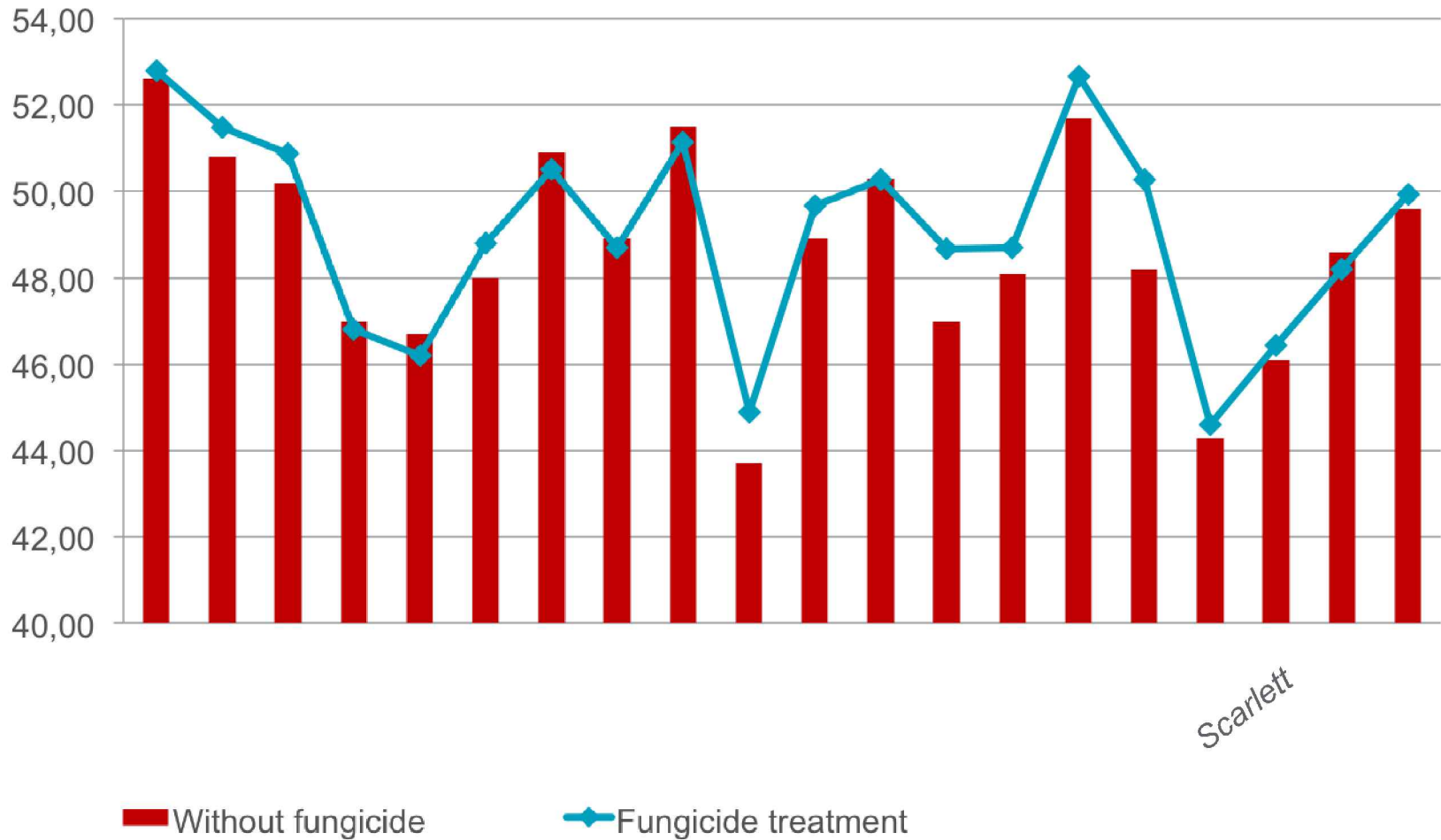


# Natural weight of barley grain is significantly higher in case of fungicide treatment, even under drought conditions, g

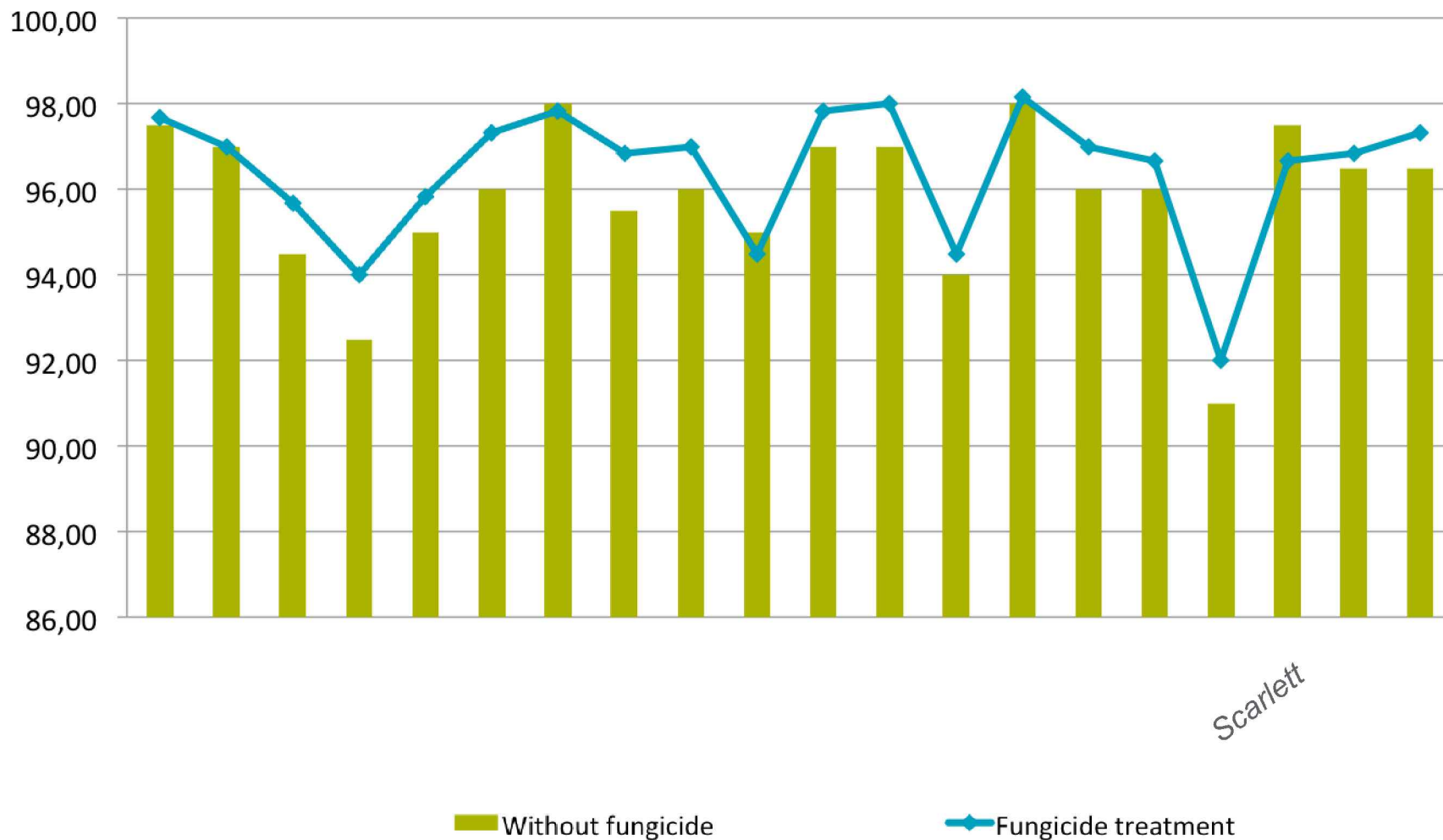


Scarlett

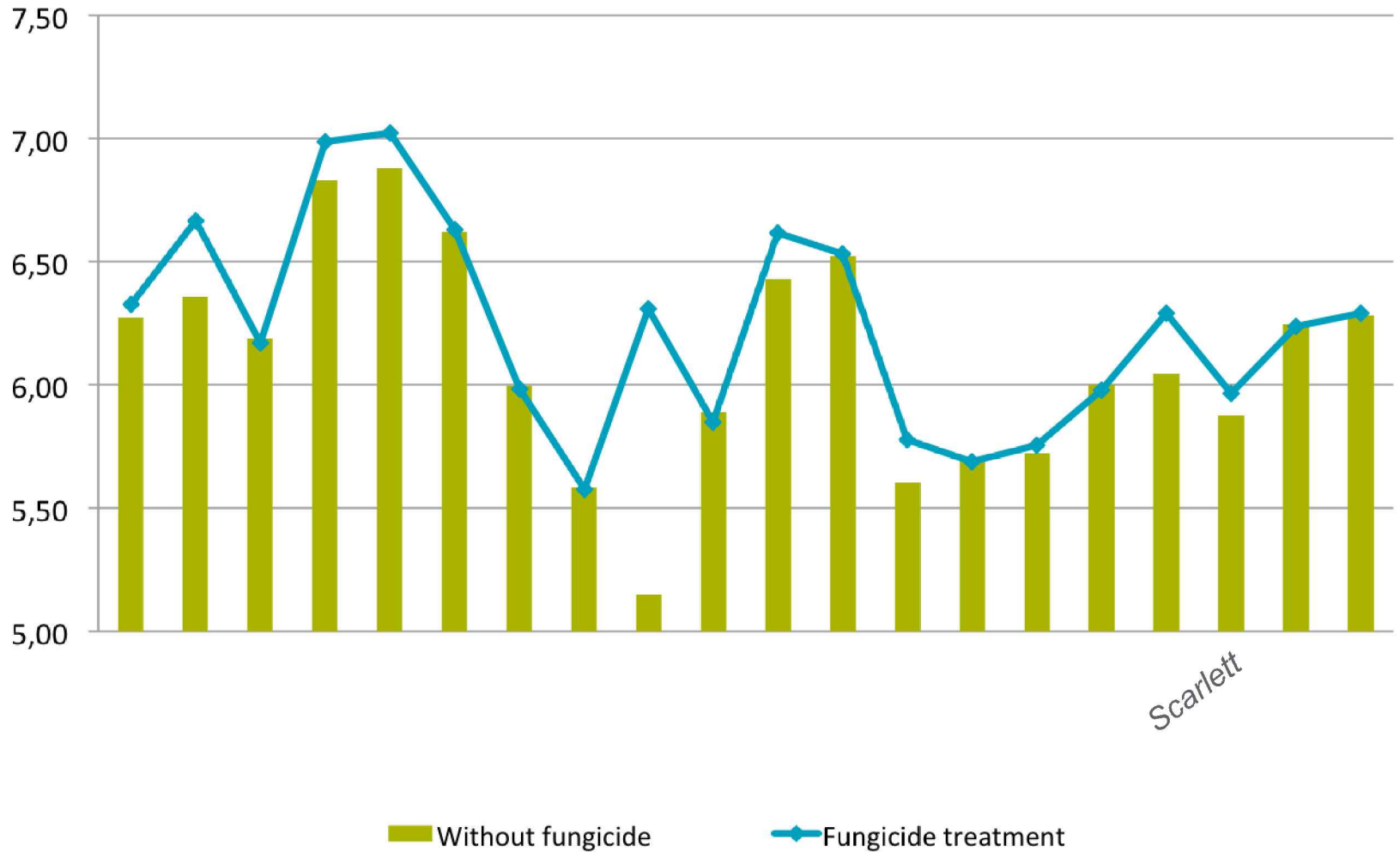
# Thousand-seed weight is slightly higher in variants with fungicide treatment



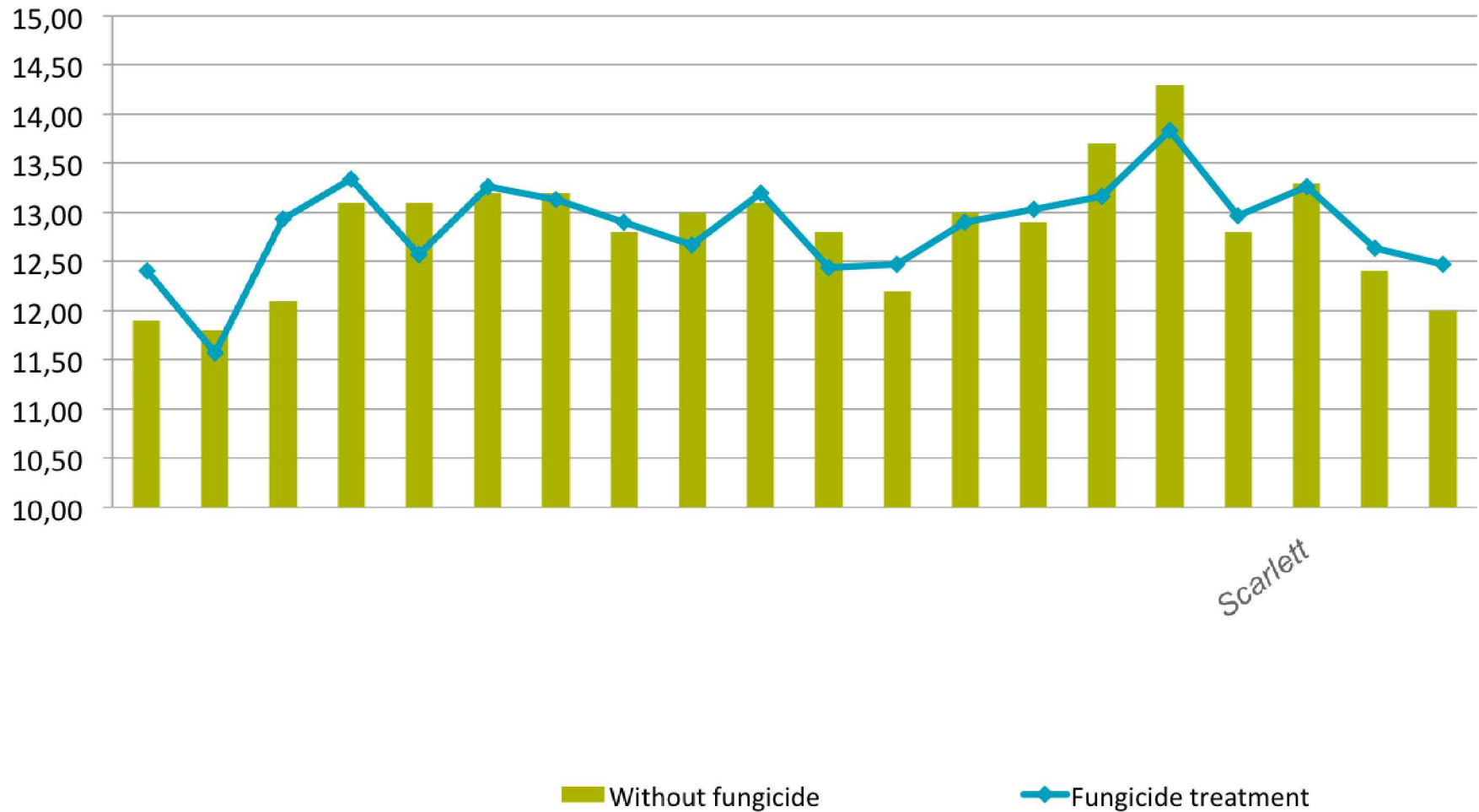
# Tendency of increase of barley grain size (2,5 mm) depending on fungicide treatments, %



# Yields of some varieties were significantly higher in case of fungicide treatments, t/ha



# Some varieties had significantly reduced protein content (in grain) in case of fungicide treatment





## Conclusion

- Most stable in terms of yield and quality – Sunshine and Quench approved by the Berlin Program in 2011 and 2008.
- Maximum number of seedlings – MN 05 EH1, Quench, Vivaldy, Cangoo.
- Best coefficient of tillering – KWS 09-221, Calcule, Beatrix, Laudis.
- Maximum number of ears – Calcule, Odissey, MH 05 EH1.
- Highest yields – MN 05 EH1, Calcule, BR 9180b3.
- Best varieties according to the grain size – Natasia, BR9404c7, Concerto.
- Best varieties according to the thousand-seed weight – Natasia, Gladis, Beatrix.
- Fungicide treatment even under drought conditions contributed to the increase of natural weight and grain size.
- Hot and dry weather in June-July 2012 was not conducive to disease development , but it influenced the increasing of protein content in grain, minimum protein level was shown by – Evergreen, KWS 09-221, KWS 09-410, Natasia.

# Recommendations of the Barley, Malt and Beer Union\*

- industrial use (the varieties which are registered the State Register of Selection Achievements):

QUENCH, SUNSHINE

- inclusion in the State Register of Selection Achievements:

MN 05 EH1, CANGOO, KWS 09-410



\* recommendations are applicable to the particular variety trial (region, conditions)