

Table S1. Mean temperatures and total precipitation at the Wrocław-Strachowice Station (51°12' N. 16°87' E) in the years 2016–2021.

2016–2021.

Year	Month												Mean or sum Jan-Dec
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Temperature (°C)													
2016	-0.4	5.1	4.4	8.8	15.0	18.8	19.7	18.4	16.9	8.5	3.6	1.5	10.0
2017	-3.0	1.2	7.0	8.0	14.3	18.7	19.3	19.5	13.2	11.0	5.6	3.1	9.8
2018	3.0	-2.0	1.6	13.5	17.0	19.1	20.2	21.4	16.2	11.0	5.2	3.0	10.8
2019	-0.1	3.4	6.9	10.6	11.9	22.3	19.8	20.9	14.8	11.1	7.2	3.7	11.0
2020	2.5	5.3	5.3	10.0	11.8	17.3	18.7	20.5	15.5	11.2	5.8	2.5	10.6
2021	-0.2	-0.3	4.2	6.4	12.2	20.0	20.5	17.7	15.4	10.1	5.4	0.9	9.4
Precipitation (mm)													
2016	41.8	46.5	50.8	51.0	44.8	69.4	115.2	23.1	41.0	86.6	43.2	29.7	643.1
2017	14.5	21.3	35.3	61.8	28.3	58.1	148.0	46.2	65.1	75.2	35.3	30.2	619.3
2018	17.6	1.9	30.8	25.3	41.2	62.8	100.8	16.8	45.9	34.7	15.4	48.2	441.4
2019	48.5	26.7	31.1	37.1	49.7	25.1	35.0	42.1	53.0	30.6	34.8	17.1	430.8
2020	8.2	61.8	14.1	26.0	85.4	262.4	40.5	74.9	94.2	99.9	22.8	18.2	808.4
2021	43.5	19.1	22.6	48.0	65.2	49.7	110.1	74.8	24.2	8.8	30.2	44.1	540.3

Table S2. Fruit number and yield of ‘Chopin’ cv. depending on blue fescue or red fescue living mulch sods and herbicide fallow – experiment 1, in the individual years since 2017 up to 2021 (mean \pm SD, n=4).

Fallow – experiment 1, in the individual years since 2017 up to 2021 (mean \pm SD, n=4).					
Year	Herbicide fallow	Grass living mulch species and seed sowing dose (kg·ha ⁻¹)			
		Blue fescue		Red fescue	
		50	150	50	150
Fruit number (no·tree ⁻¹)					
2017	6 \pm 5 a	6 \pm 3 a	7 \pm 4 a	5 \pm 2 a	3 \pm 1 a
2018	22 \pm 11 a	15 \pm 4 a	14 \pm 6 a	12 \pm 2 a	10 \pm 7 a
2019	14 \pm 9 a	22 \pm 18 a	19 \pm 7 a	12 \pm 2 a	14 \pm 8 a
2020	106 \pm 28 b	51 \pm 20 a	45 \pm 17 a	48 \pm 20 a	33 \pm 25 a
2021	98 \pm 70 a	56 \pm 45 a	49 \pm 23 a	46 \pm 31 a	48 \pm 34 a
Yield (kg·tree ⁻¹)					
2017	0.80 \pm 0.81 a	0.82 \pm 0.46 a	0.73 \pm 0.43 a	0.53 \pm 0.27 a	0.30 \pm 0.16 a
2018	3.00 \pm 1.44 a	1.94 \pm 0.32 a	1.95 \pm 0.76 a	1.69 \pm 0.31 a	1.39 \pm 1.09 a
2019	1.61 \pm 0.90 a	2.62 \pm 2.11 a	2.19 \pm 0.78 a	1.52 \pm 0.26 a	1.69 \pm 1.04 a
2020	10.27 \pm 3.64 b	6.01 \pm 1.69 ab	5.35 \pm 1.48 a	5.13 \pm 1.25 a	3.95 \pm 2.62 a
2021	11.06 \pm 6.78 a	7.45 \pm 4.89 a	6.45 \pm 2.66 a	5.41 \pm 1.86 a	5.01 \pm 2.21 a

Mean marked with different letter in rows represent statistically differences among treatments (one way ANOVA, Tukey test, $p \leq 0.05$).

Table S3. Fruit number and yield of ‘Chopin’ cv. depending on meadow grass or perennial ryegrass living mulch sod and herbicide fallow – experiment 2, in the individual years since 2017 up to 2021 (mean \pm SD, n=4).

Year	Herbicide fallow	Grass living mulch species and seed sowing dose (kg·ha ⁻¹)			
		Meadow grass		Perennial ryegrass	
		50	150	50	150
Fruit number (no·tree ⁻¹)					
2017	3 ± 3 a	5 ± 3 a	6 ± 4 a	3 ± 3 a	7 ± 3 a
2018	11 ± 6 b	5 ± 4 ab	6 ± 5 ab	4 ± 3 ab	1 ± 1 a
2019	21 ± 8 a	21 ± 6 a	20 ± 5 a	11 ± 11 a	19 ± 2 a
2020	90 ± 31 b	23 ± 14 a	15 ± 7 a	24 ± 18 a	5 ± 4 a
2021	110 ± 32 b	62 ± 24 ab	83 ± 20 ab	38 ± 29 a	61 ± 10 ab
Yield (kg·tree ⁻¹)					
2017	0.33 ± 0.21 a	0.42 ± 0.29 a	0.51 ± 0.38 a	0.26 ± 0.28 a	0.50 ± 0.19 a
2018	1.68 ± 0.81 b	0.54 ± 0.36 ab	0.72 ± 0.59 ab	0.43 ± 0.33 ab	0.11 ± 0.09 a
2019	2.31 ± 0.90 a	1.94 ± 0.65 a	1.91 ± 0.33 a	1.17 ± 1.05 a	1.66 ± 0.22 a
2020	8.77 ± 2.68 b	1.96 ± 1.13 a	1.59 ± 0.53 a	2.61 ± 1.59 a	0.63 ± 0.50 a
2021	12.79 ± 1.88 b	7.14 ± 3.37 ab	8.58 ± 1.84 ab	4.03 ± 3.15 a	6.59 n± 1.69 a

Mean marked with different letter in rows represent statistically differences among treatments (one way ANOVA, Tukey test, $p \leq 0.05$).

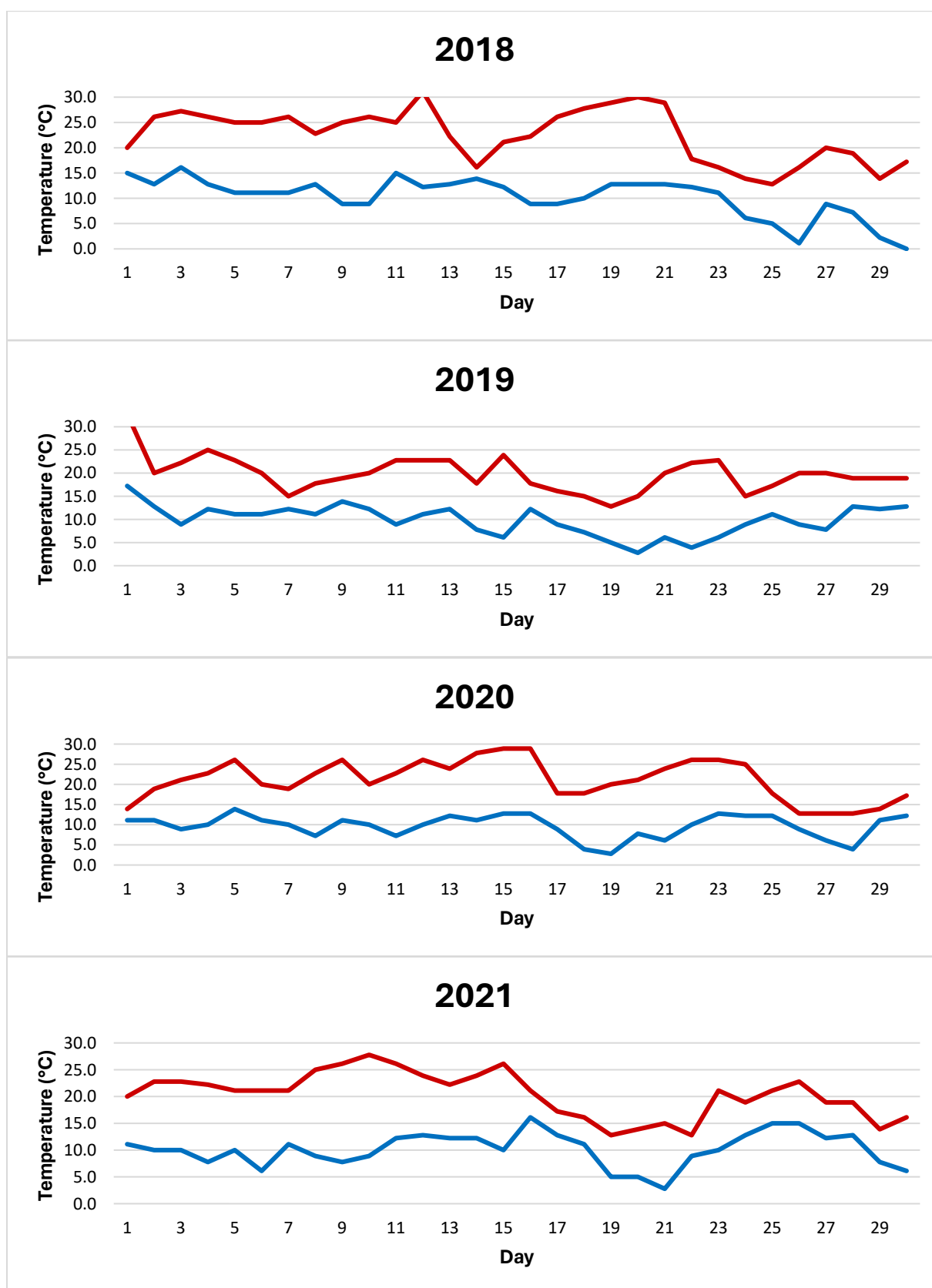


Figure S1. Daily minimum and maximum temperatures at the Wrocław-Strachowice Station (51°12' N. 16°87' E) in September in the years 2018–2021.

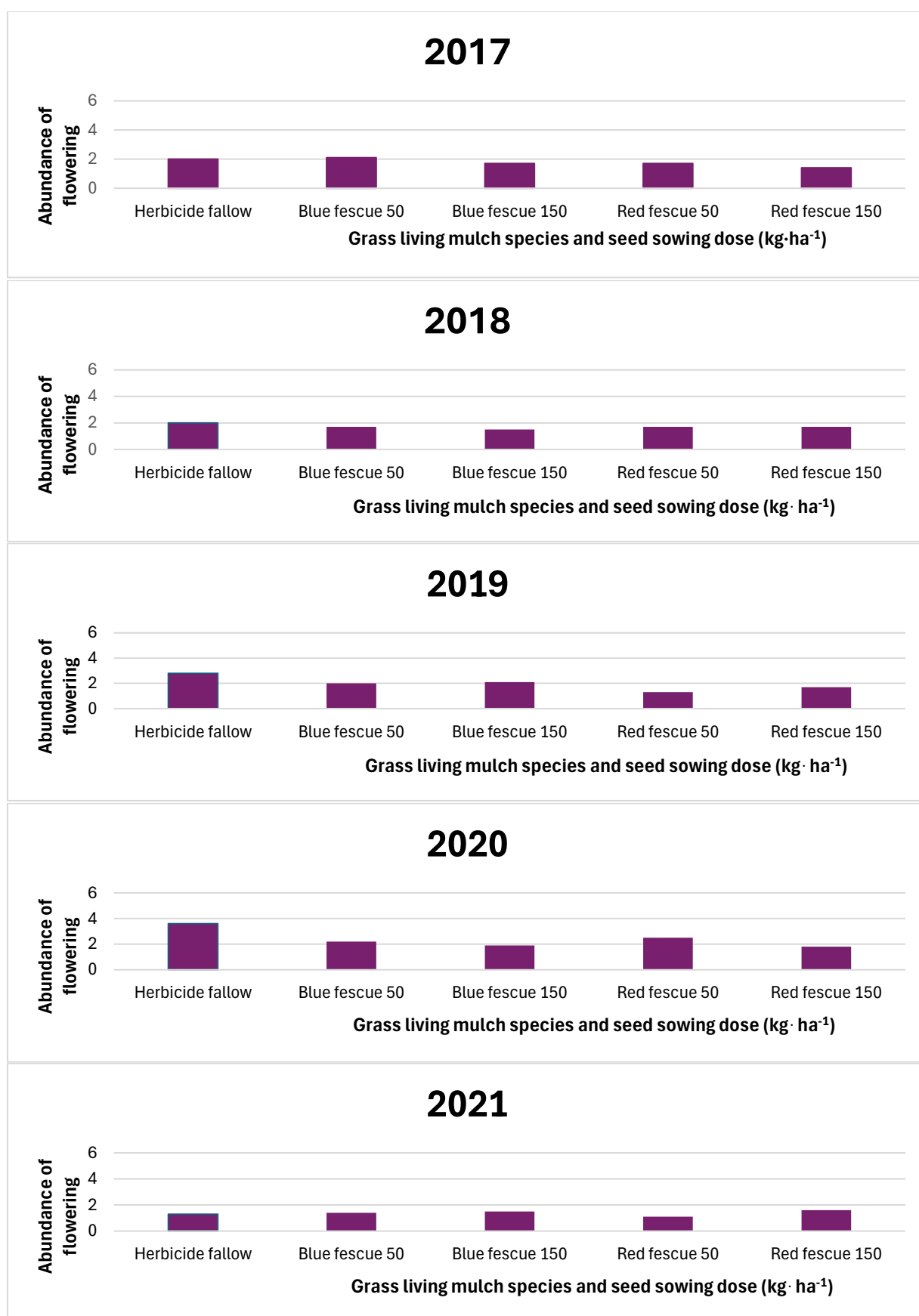


Figure S2. Blooming of ‘Chopin’ trees depending on blue fescue or red fescue living mulch sods and herbicide fallow – experiment 1 (scale 1–6).

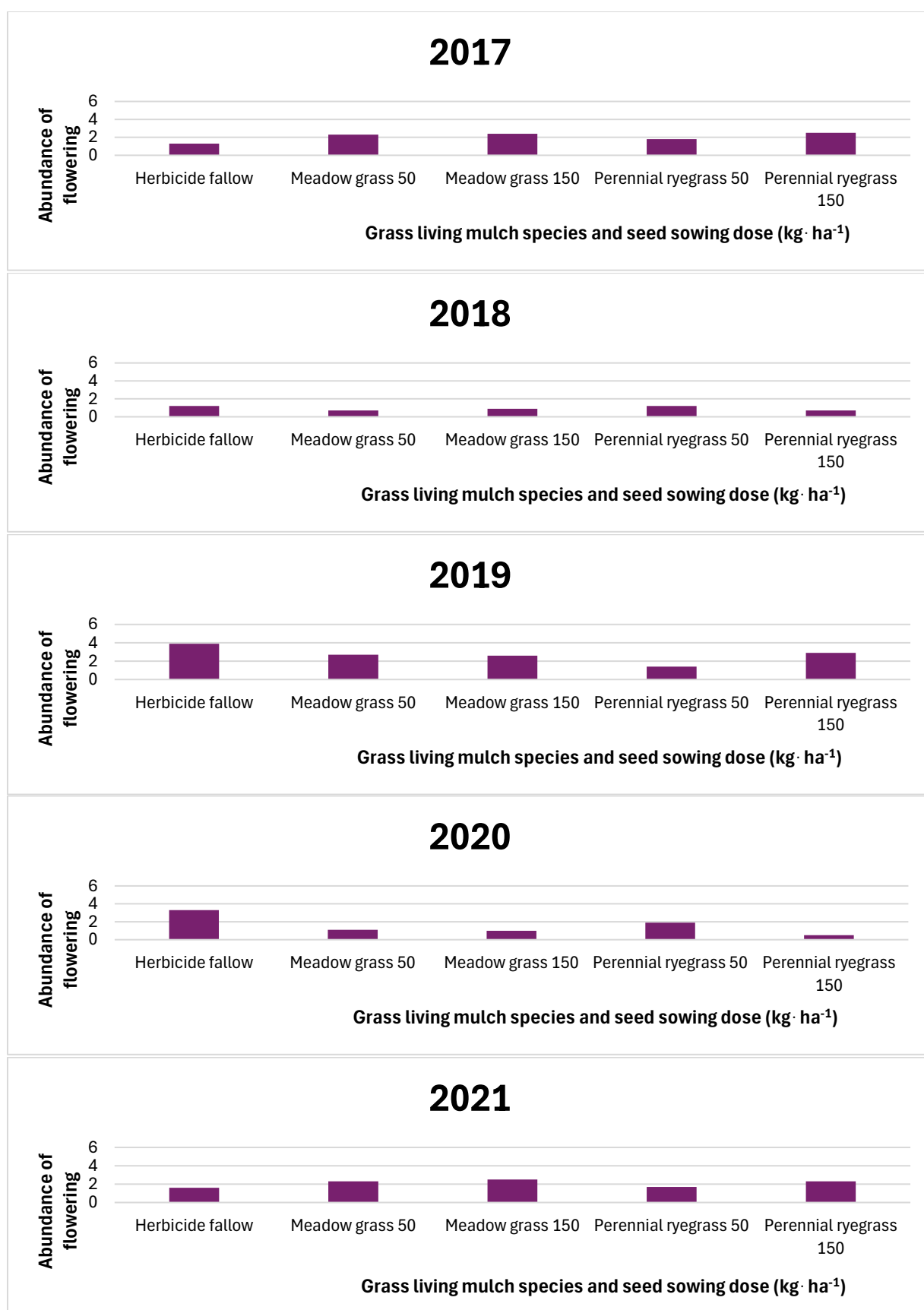


Figure S3. Blooming of ‘Chopin’ trees depending on meadow grass or perennial ryegrass living mulch sods and herbicide fallow – experiment 2 (scale 1–6).



Scheme S1. Red-pink blushing on the fruit skin surface of the green-peel 'Chopin' cv. in autumn 2018 year.