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SUSCEPTIBILITY OF STRAWBERRY CULTIVARS TO THE TWO-SPOTTED SPIDER MITE (*Tetranychus urticae* Koch)

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A B S T R A C T

Twenty strawberry cultivars were evaluated in terms of their susceptibility to the two-spotted spider mite (*Tetranychus urticae* Koch). The trial was carried out from 1999 to 2002 at the Experimental Orchard in Dąbrowice, near Skierniewice (central Poland). Three to five times each growing season, motile forms and eggs were counted. At the end of each season, the Cumulative Index of Infestation (CII) was calculated separately for motile forms and eggs. All of the twenty strawberry cultivars were susceptible to infestation, although the degree of susceptibility varied from cultivar to cultivar. The cultivars that were most susceptible to infestation by the two-spotted spider mite were: 'Elsanta', 'Tenira', 'Pegasus' and 'Elkat'. The cultivars that were moderately susceptible were: 'Seal', 'Selection 1248', 'Marmolada', 'Selva', 'Senga Sengana', 'Honeoye', 'Kent', 'Tarda Vicoda', 'Malling Pandora', 'Kastor' and 'Selection 1476'. The cultivars that were least susceptible were: 'Polka', 'Karel', 'Selection 723', 'Evita' and 'Vega'.

Key words: strawberry, *Tetranychus urticae*, strawberry cultivars infestation, two-spotted spider mite

INTRODUCTION

The two-spotted spider mite (*Tetranychus urticae* Koch) is a pest that infests many plant species. The level of infestation depends on the temperature and weather, and thus varies from year to year. It also depends on the plant species and cultivar in question (Kiełkiewicz and Tomczyk, 1987; Łabanowska, 1992; Skorupska, 2004).

Strawberry cultivars differ in terms of their susceptibility to spider mite infestation (Dąbrowski and Rodriguez, 1971; Dąbrowski et al., 1975; Łabanowska, 1975/76; Gimenez-Ferrer et al., 1993; Bellanger and Khanizadeh, 1996; Łabanowska and Chlebowska, 1998; Lourencao et al., 2000).

Heavy infestation of strawberry leaves by spider mites reduces plant growth and yield (Kiełkiewicz et al., 1986; Klamkowski et al., 2006).

The aim of this study was to evaluate twenty strawberry cultivars in terms of their susceptibility to infestation by the two-spotted spider mite.

MATERIAL AND METHODS

In the spring of 1999, plants of twenty cultivars were planted in two 12 m long rows covering a total area of 24 m^2. The cultivars evaluated are listed in Table 1. 'Senga Sengana' was included a the reference cultivar because it is widely grown in Poland for use by the food processing industry (Łabanowska and Chlebowska, 1998).

The experiment was carried out at the Dąbrowice Experimental Orchard, which belongs to the Research Institute of Pomology and Floriculture in Skierniewice, central Poland. Because the field chosen for the experiments is planted with strawberries every year, the probability of infestation by spider mites is high.

The experiment was carried out in a randomized block design with four replicates of fifty plants per plot. The plants were not treated with chemical agents during the course of the experiment.

From 1999 to 2002, samples were collected three to five times during the course of the growing season. Each sample consisted of ten large leaves collected at random from each plot. Motile forms and eggs were counted using the procedure described by Henderson and McBurnie (1943).

Data were transformed using the function $\mathbf{y = \log (x + 1)}$, where $\boldsymbol{x}$ represents the mean number of motile forms or eggs per leaf. All data were elaborated using analysis of variance, followed by means separation using Duncan's multiple range t-test at $P < 0.05$.

Results for the number of motile forms were compared to the economic threshold level. The values used in this study were 2.0 motile forms per leaf for May, 3.0 motile forms per leaf for June, and 5.0 motile forms per leaf for July and August. The number of motile forms was defined as the combined number of active stages (larvae, nymphs and adults). The Cumulative Index of Infestation (CII) was then calculated using the formula developed by Wratten et al. (1979). Relative CIIs for each cultivar were then calculated as percentages of the CII of the reference cultivar, 'Senga Sengana'.

RESULTS

In 1999, motile forms and eggs of the two-spotted spider mite were counted on June 1, July 2 and August 2. Mites were found on all twenty cultivars, but the numbers found varied from cultivar to cultivar. The number of mites was never very

much higher than the economic threshold level (Tab. 1a and 1b).

The number of motile forms was higher than the economic threshold level in the following cultivars:

- June 1: 'Vega', 'Kastor', 'Elsanta' and 'Pegaus'.
- July 2: 'Malling Pandora', 'Kent', 'Elkat' and 'Tenira'.
- August 2: 'Selva', 'Elsanta', 'Marmolada', 'Tenira' and 'Tarda Vicoda'.

CII was by far the highest in 'Elsanta', and by far the lowest in 'Karel'. The number of eggs was correlated with number of motile forms.

In 2000, motile forms and eggs were counted on May 17, June 7, June 27, July 10 and August 3. The mite population was higher than in 1999 (Tab. 2a and 2b). The weather was especially favorable for the development of the two-spotted spider mite, and all of the cultivars were infested (Tabs. 2a and 2b).

The number of motile forms was higher than the economic threshold level in the following cultivars:

- May 17: all cultivars except 'Vega'. Highest in 'Pegasus'.
- June 7: all cultivars. Highest in 'Elsanta'.
- June 27: all cultivars. Highest in 'Selection 1248'.
- July 10: all cultivars except 'Selection 723'. Highest in 'Pegasus'.
- August 3: none of the cultivars.

CII was by far the highest in 'Pegasus' and 'Elsanta', and by far the lowest in 'Vega' and 'Selection 723'. The number of eggs was correlated with number of motile forms.

In 2001, motile forms and eggs were counted on June 4, June 26, July 25 and August 16. The number of motile forms was never higher than the economic threshold level in any of the cultivars tested (Tab. 3a and 3b).

The highest numbers were found on June 26, but even then they were lower than the threshold level. For the season as a whole, the number of motile forms was highest in 'Elsanta' and 'Tenira', and lowest in 'Karel' and 'Seal'.

CII was by far the highest in 'Elsanta', and by far the lowest in 'Karel'. The number of eggs was correlated with number of motile forms.

In 2002, motile forms and eggs were counted on May 23 and June 19. The number of motile forms was generally low. However, severe infestation was found in one cultivar, 'Tenira', in which the number of motile forms on June 19 was 28.4 times the economic threshold level (Tab. 4a and 4b).

The number of motile forms was higher than the economic threshold level in the following cultivars:

- May 23: 'Kent', 'Tenira', 'Pegasus', 'Seal', 'Kastor', 'Marmolada' and 'Senga Sengana'.
- June 19: 'Tenira' (severe infestation), 'Elkat', 'Seal', 'Selection 1248', 'Pegasus', 'Senga Sengana', 'Selva', 'Honeoye' and 'Marmolada'.

CII was of course the highest in 'Tenira', but was also high in 'Elkat' and 'Seal', and by far the lowest in 'Karel' and 'Vega'. The number of eggs was correlated with number of motile forms.

Table 1a. Infestation in twenty strawberry cultivars by motile forms of the two-spotted spider mite (*Tetranychus urticae* Koch)

Dąbrowice Experimental Orchard, 1999

Cultivar	Mean number of motile forms per leaf			Relative CII**
	June 1	July 2	August 2	
Elkat	0.2 a*	5.5 ef	4.9 fg	126.7 e-i
Elsanta	4.5 def	4.8 def	9.8 h	185.5 j
Evita	0.2 a	2.2 abc	4.4 fg	71.7 a-d
Honeoye	1.7 cde	2.8 bcd	4.3 fg	100.7 c-i
Karel	0.2 a	1.3 a	0.4 a	28.3 a
Kastor	5.0 ef	1.5 ab	1.0 bc	78.6 bcd
Kent	2.9 c-f	5.6 f	3.9 ef	143.5 i
Malling Pandora	2.1 cde	5.7 f	2.2 de	132.1 f-i
Marmolada	1.1 c	3.7 c-f	8.6 gh	137.4 ghi
Pegasus	3.3 c-f	2.2 abc	2.0 de	81.7 b-c
Polka	2.8 c-f	1.3 a	1.3 cd	54.2 abc
Seal	1.4 cde	3.1 c-f	0.6 ab	69.5 abc
Selection 723	1.2 cd	4.0 c-f	1.7 cd	88.5 b-f
Selection 1248	0.8 bc	2.3 abc	0.6 ab	51.2 ab
Selection 1476	0.3 ab	3.2 c-f	4.8 fg	92.4 b-g
Selva	1.3 cd	2.9 b-e	10.5 h	140.4 hi
Senga Sengana	**1.4 cde**	**2.8 bcd**	**4.5 fg**	**100.0 c-i**
Tarda Vicoda	2.0 cde	2.3 abc	5.7 fgh	95.4 b-h
Tenira	1.2 cd	5.0 def	6.3 fgh	135.8 ghi
Vega	8.2 f	2.8 bcd	1.3 cd	116.8 d-i

* Numbers followed by the same letter do not differ at $P < 0.05$ according to Duncan's multiple-range t-test
** Cumulative Index of Infestation

Table 1b. Infestation in twenty strawberry cultivars by eggs of the two-spotted spider mite (*Tetranychus urticae* Koch)

Dąbrowice Experimental Orchard, 1999

Cultivar	Mean number of eggs per leaf			Relative CII**
	June 1	July 2	August 2	
Elkat	1.8 bc*	12.6 efg	6.0 ef	98.3 bcd
Elsanta	13.7 gh	30.4 h	17.9 i	263.8 f
Evita	1.3 b	7.3 cde	10.8 gh	79.7 bc
Honeoye	6.4 efg	10.5 d-g	5.9 ef	104.0 cde
Karel	2.5 bcd	2.9 a	1.3 a	3.0 a
Kastor	15.7 h	3.8 ab	3.3 cd	81.9 bc
Kent	11.5 fgh	13.6 fg	5.8 ef	128.0 de
Malling Pandora	4.7 de	9.6 d-g	8.1 fg	97.5 bcd
Marmolada	6.2 efg	15.6 g	9.8 fgh	135.3 de
Pegasus	11.7 fgh	7.9 c-f	4.2 de	95.1 bcd
Polka	6.1 efg	6.1 bcd	1.9 ab	59.9 ab
Seal	6.2 efg	10.2 d-g	2.3 bc	92.1 bcd
Selestion 723	4.9 def	14.6 g	7.7 fg	121.8 cde
Selection 1248	3.7 cde	14.5 g	1.8 ab	96.3 bcd
Selection 1476	0.4 a	8.9 c-g	9.9 fgh	80.8 bc
Selva	3.4 cde	9.9 d-g	15.6 hi	117.5 cde
Senga Sengana	**4.7 de**	**10.5 d-g**	**8.8 fg**	**100.0 bcd**
Tarda Vicoda	4.4 de	10.5 d-g	8.2 fg	100.9 bcd
Tenira	4.5 de	14.5 g	16.4 hi	143.8 e
Vega	20.8 h	5.3 bc	4.0 de	104.8 cde

*, **Explanations, see Table 1a

Table 2a. Infestation of strawberry cultivars by active stages of the two-spotted spider mite (*Tetranychus urticae* Koch)

Dąbrowice Experimental Orchard, 2000

Cultivar	Mean number of mites per leaf					Relative CII**
	May 17	June 7	June 27	July 10	August 3	
Elkat	7.9 fgh*	13.2 de	7.3 bcd	6.2 a-e	1.0 b-e	97.5 cd
Elsanta	9.8 gh	29.0 f	3.5 a	8.7 b-e	2.9 h	160.6 f
Evita	4.7 c-f	5.6 ab	6.7 bc	5.6 abc	1.7 d-h	64.8 abc
Honeoye	5.5 c-g	7.0 bcd	8.2 bcd	10.6 ef	3.3 h	92.1 cd
Karel	3.1 bc	3.2 a	8.3 bcd	8.7 b-e	1.3 c-g	65.5 abc
Kastor	5.4 c-g	7.6 bcd	6.9 bc	5.7 a-d	1.3 c-g	71.1 abc
Kent	3.4 bcd	9.7 b-e	5.6 ab	9.5 cde	2.4 gh	85.1 cd
Malling Pandora	4.8 c-f	5.7 abc	5.3 ab	10.1 ef	2.9 h	76.6 abc
Marmolada	5.8 d-g	16.2 ef	12.0 def	6.4 a-e	0.5 ab	117.2 de
Pegasus	11.6 h	12.7 de	25.5 g	16.2 f	2.2 fgh	179.6 f
Polka	2.1 b	3.6 a	6.4 bc	10.0 def	1.9 e-h	65.1 abc
Seal	6.4 efg	11.0 cde	17.5 efg	6.6 a-e	1.7 d-h	120.4 de
Selection 723	2.1 b	5.6 ab	3.7 a	4.3 a	0.3 a	46.8 ab
Selection 1248	6.6 e-h	11.5 de	17.9 fg	7.3 a-e	0.8 bcd	117.7 de
Selection 1476	4.0 cde	5.5 ab	6.3 bc	7.1 a-e	1.7 d-h	68.7 abc
Selva	8.2 fgh	10.4 b-e	11.9 def	6.4 a-e	0.6 bc	100.1 cd
Senga Sengana	**3.7 cde**	**12.4 de**	**9.2 bcd**	**7.7 b-e**	**2.2 fgh**	**100.0 cd**
Tarda Vicoda	5.5 c-g	8.6 b-e	8.1 bcd	6.1 a-e	1.4 d-g	83.7 bcd
Tenira	7.4 fgh	27.4 f	10.6 cde	5.5 abc	1.2 b-g	147.6 ef
Vega	1.2 a	3.4 a	5.6 ab	5.1 ab	1.1 b-f	46.2 a

*, **Explanations, see Table 1a

Table 2b. Infestation of strawberry cultivars with eggs of the two-spotted spider mite (*Tetranychus urticae* Koch)

Dąbrowice Experimental Orchard, 2000

Cultivar	Mean number of eggs per leaf					Relative CII**
	May 17	June 7	June 27	July 10	August 3	
Elkat	44.9 ghi	39.7 fg	6.2 bc	9.3 a-d	0.8 ab	119.5 d
Elsanta	67.4 ij*	46.8 fg	6.2 bc	15.4 def	4.0 ij	162.2 ef
Evita	19.1 def	17.9 cd	11.1 c-f	10.0 a-e	2.7 f-j	74.8 abc
Honeoye	40.3 ghi	36.4 fg	8.2 bcd	17.0 def	4.6 j	124.8 de
Karel	8.7 ab	7.6 a	16.2 ef	13.7 c-f	1.7 c-f	60.6 a
Kastor	16.3 cde	19.6 cde	9.0 bcd	6.1 a	1.6 c-f	67.3 abc
Kent	35.0 gh	42.6 fg	7.1 bcd	11.5 b-e	4.2 j	130.0 de
Malling Pandora	14.2 bcd	12.1 abc	8.5 bcd	17.8 ef	4.3 j	70.0 abc
Marmolada	31.8 fg	33.3 ef	11.6 def	9.3 a-d	1.1 abc	103.8 bcd
Pegasus	95.4 j	62.8 g	33.9 g	21.7 f	3.5 hij	246.1 g
Polka	10.8 abc	8.8 a	13.1 def	16.6 def	2.4 f-i	64.0 ab
Seal	43.8 ghi	39.9 fg	10.9 c-f	9.8 a-e	3.2 g-j	131.0 de
Selection 723	27.0 efg	18.0 cd	3.1 a	6.7 a-b	0.6 a	67.0 abc
Selection 1248	27.4 efg	30.8 def	18.2 f	10.4 a-e	1.3 b-e	106.3 cd
Selection 1476	40.3 ghi	10.0 ab	5.4 b	16.9 def	2.3 e-i	79.7 abc
Selva	45.7 ghi	39.2 fg	18.0 f	8.0 abc	1.2 bcd	132.6 de
Senga Sengana	**18.9 def**	**36.8 fg**	**8.5 bcd**	**11.6 b-e**	**2.2 e-h**	**100.0 a-d**
Tarda Vicoda	33.5 g	16.8 bc	7.9 bcd	5.9 a	2.2 e-h	71.8 abc
Tenira	60.3 hij	64.6 g	9.6 b-e	9.7 a-e	1.9 d-g	170.6 f
Vega	6.5 a	18.1 cd	6.3 bc	15.4 def	1.8 c-g	64.1 ab

*, **Explanations, see Table 1a

Table 3a. Infestation of strawberry cultivars by active stages of the two-spotted spider mite (*Tetranychus urticae* Koch)

Dąbrowice Experimental Orchard, 2001

Cultivar	Mean number of mites per leaf				Relative CII**
	June 4	June 26	July 23	August 16	
Elkat	1.2 de*	2.6 f	0.9 def	0.1 abc	137.9 def
Elsanta	0.6 b-e	2.7 f	2.3 f	0.5 cd	171.4 f
Evita	1.2 de	1.8 c-f	0.05 a	0.05 ab	80.3 a-d
Honeoye	0.6 b-e	1.4 b-f	0.8 c-f	0.1 abc	93.3 b-e
Karel	0.3 ab	0.05 a	0.1 ab	0.05 ab	18.4 a
Kastor	0.8 b-e	1.7 b-f	0.4 a-d	0.0 a	84.5 a-d
Kent	0.8 b-e	1.2 b-f	0.5 b-e	0.05 ab	62.6 abc
Malling Pandora	0.6 b-e	2.2 def	0.7 c-f	0.0 a	96.2 b-e
Marmolada	0.3 ab	1.3 b-f	1.7 ef	0.1 abc	106.6 b-e
Pegasus	0.5 a-d	0.8 bc	0.5 b-e	0.05 ab	48.7 abc
Polka	0.3 ab	0.9 b-e	1.0 ef	0.0 a	66.9 abc
Seal	0.2 a	0.7 bc	0.6 b-f	0.1 abc	44.8 ab
Selection 723	1.1 cde	0.6 b	0.6 b-f	0.05 ab	55.0 abc
Selection 1248	0.6 b-e	2.3 ef	0.8 c-f	0.3 bcd	113.4 c-f
Selection 1476	0.8 b-e	0.8 bc	0.1 abc	0.0 a	45.1 ab
Selva	0.6 b-e	0.8 bc	0.6 b-f	0.0 a	55.2 abc
Senga Sengana	**1.6 e**	**2.3 ef**	**0.2 a-d**	**0 .0 a**	**100.0 b-e**
Tarda Vicoda	1.6 e	2.3 ef	0.7 c-f	0.1 abc	142.5 def
Tenira	0.3 ab	1.6 b-f	2.2 f	0.9 d	158.0 ef
Vega	0.6 b-e	0.9 b-e	0.4 a-e	0. a	60.1 abc

*, **Explanations, see Table 1a

Table 3b. Infestation of strawberry cultivars with eggs of the two-spotted spider mite (*Tetranychus urticae* Koch)

Dąbrowice Experimental Orchard, 2001

Cultivar	Mean number of eggs per leaf				Relative CII**
	June 4	June 26	July 23	August 16	
Elkat	3.2 e-i*	3.4 c-f	1.5 d-ef	0.9 c	73.6 c-f
Elsanta	1.7 c-g	4.1 ef	1.9 ef	0.6 bc	78.1 def
Evita	3.8 f-i	3.0 c-f	0.3 abc	0.1 ab	57.5 bcd
Honeoye	1.6 c-f	3.0 c-f	0.6 b-e	0.6 abc	48,6 b-e
Karel	1.2 bcd	0.2 a	0.05 a	0.3 abc	12.0 a
Kastor	1.1 bc	2.8 c-f	0.3 abc	0.05 a	42.9 abc
Kent	2.7 d-h	3.6 def	0.9 b-e	0.1 ab	62.3 b-e
Malling Pandora	1.3 b-e	3.3 c-f	0.2 ab	0.05 a	44.6 a-d
Marmolada	0.8 abc	1.6 bcd	4.2 fg	0.4 abc	78.4 def
Pegasus	1.1 bc	1.1 b	1.7 def	0.5 abc	43.8 abc
Polka	0.6 ab	1.7 bcd	0.8 b-e	0.1 ab	30.0 ab
Seal	0.4 a	1.8 b-e	1.1 cde	0.3 abc	36.2 ab
Selection 723	3.1 e-i	1.1 b	0.3 abc	0.1 ab	37.3 ab
Selection 1248	4.1 ghi	2.9 c-f	0.8 b-e	0.5 abc	61.7 b-e
Selection 1476	2.0 c-h	1.4 bc	0.3 abc	0.2 abc	33.1 ab
Selva	0.9 abc	2.8 c-f	0.7 b-e	0.05 a	43.0 abc
Senga Sengana	**0.7 i**	**5.6 f**	**0.5 bcd**	**0.05 a**	**100.0 f**
Tarda Vicoda	4.3 hi	3.6 def	1.2 de	0.8 bc	82.2 ef
Tenira	0.9 abc	3.0 c-f	8.9 g	0.3 abc	139.7 g
Vega	1.8 c-g	2.2 b-f	0.3 abc	0.05 a	38.6 ab

*, **Explanations, see Table 1a

Table 4a. Infestation of strawberry cultivars by active stages of the two-spotted spider mite (*Tetranychus urticae* Koch)

Dąbrowice Experimental Orchard, 2002

Cultivar	Mean number of mites per leaf		Relative CII**
	May 23	June 19	
Elkat	0.3 a-d*	18.2 h	199.0 e
Elsanta	1.7 def	1.8 cd	40.4 abc
Evita	0.2 abc	no plants	–
Honeoye	0.5 a-d	3.3 def	43.7 abc
Karel	0.05 a	0.5 a	7.5 a
Kastor	2.9 efg	0.3 a	39.4 abc
Kent	8.4 g	1.6 bc	109.6 cd
Malling Pandora	0.5 a-d	0.7 a	17.0 ab
Marmolada	2.7 efg	3.3 def	66.0 a-d
Pegasus	5.8 fg	6.4 fg	138.3 de
Polka	0.4 a-d	0.6 a	14.9 ab
Seal	4.1 efg	14.7 h	208.5 e
Selection 723	0.6 bcd	0.8 ab	18.1 ab
Selection 1248	1.2 cde	7.0 g	91.5 bcd
Selection 1476	1.6 def	2.2 cde	42.6 abc
Selva	1.3 c-f	4.1 efg	67.1 a-d
Senga Sengana	**2.6 efg**	**6.3 fg**	**100.0 cd**
Tarda Vicoda	0.5 a-d	3.0 cde	46.8 abc
Tenira	7.3 g	142.0 i	1602.1 f
Vega	0.1 ab	0.5 a	8.5 a

*, **Explanations, see Table 1a

Table 4b. Infestation of strawberry cultivars with eggs of the two-spotted spider mite (*Tetranychus urticae* Koch)

Dąbrowice Experimental Orchard, 2002

Cultivar	Mean number of eggs per leaf		Relative CII**
	May 23	June 19	
Elkat	1.4 cd*	34.3 k	252.1 d
Elsanta	7.2 e	1.0 def	59.7 ab
Evita	0.1 a	no plants	-
Honeoye	1.3 cd	2.2 gh	26.4 ab
Karel	0.9 bc	0.8 de	12.5 a
Kastor	10.1 ef	0.2 bc	79.2 abc
Kent	30.9 g	0.8 def	222.9 d
Malling Pandora	1.9 cd	0.1 ab	16.0 a
Marmolada	7.8 e	2.2 gh	74.3 abc
Pegasus	16.1 efg	4.1 hi	150.0 c
Polka	2.0 cd	0.5 cd	20.2 ab
Seal	22.3 fg	14.9 j	270.2 d
Selection 723	2.5 cd	0.8 de	24.3 ab
Selection 1248	6.4 e	6.5 i	95.2 abc
Selection 1476	9.2 ef	1.7 efg	77.1 abc
Selva	2.6 d	4.3 hi	54.2 ab
Senga Sengana	**6.4 e**	**6.6 i**	**100.0 bc**
Tarda Vicoda	0.4 ab	1.9 fg	18.8 ab
Tenira	28.6 g	198.2 l	1610.4 e
Vega	8.0 e	0.05 a	56.3 ab

*, **Explanations, see Table 1a

DISCUSSION AND CONCLUSIONS

Throughout the four years observation period, the two-spotted spider mite was found on all twenty evaluated cultivars. Two-spotted spider mite was also noted on all strawberry cultivars in earlier experiments (Bellanger and Khanizadeh, 1996; Dąbrowski et al., 1975; Łabanowska, 1975/76; Łabanowska and Chlebowska; 1998; Lourencao et al., 2000).

The number of two-spotted spider mites per leaf varied from year to year, and from month to month in a particular year. The highest numbers were recorded in 2000, and the lowest in 2001.

Based on number of mites per leaf and CII, the cultivars that were most susceptible to infestation by the two-spotted spider mite were: 'Elsanta', 'Tenira', 'Pegasus' and 'Elkat'.

The cultivars that were moderately susceptible were: 'Seal', 'Selection 1248', 'Marmolada', 'Selva", 'Senga Sengana', 'Honeoye', 'Kent', 'Tarda Vicoda', 'Malling Pandora', 'Kastor' and 'Selection 1476'.

The cultivars that were least susceptible were: 'Polka', 'Karel', 'Selection 723', 'Evita' and 'Vega'.

The results for several of the cultivars examined in this study agree well with the results of a previous study infestation by two-spotted spider mites in different strawberry cultivars. The level of infestation was high in 'Pegasus', moderate in 'Kent' and 'Honeoye', and low in 'Pandora' (Uselis et al., 2006).

With any of the cultivars with high or moderate levels of infection, infestation by two-spotted spider mites should be controlled with chemical agents. Control measures should be carried out either after full blossom, or soon after harvest.

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ZASIEDLENIE DWUDZIESTU ODMIAN TRUSKAWKI PRZEZ PRZĘDZIORKA CHMIELOWCA – *Tetranychus urticae* Koch

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S T R E S Z C Z E N I E

Doświadczenia nad występowaniem przędziorka chmielowca – *Tetranychus urticae* Koch na 20 odmianach truskawki prowadzono w latach 1999-2002 w Sadzie Doświadczalnym Instytutu Sadownictwa i Kwiaciarstwa w Dąbrowicach koło Skierniewic. Liczebność stadiów ruchomych i jaj przędziorka chmielowca określano 3-5 razy w sezonie wegetacji. Obecność przędziorków stwierdzono na wszystkich dwudziestu obserwowanych odmianach. Najsilniej zasiedlone przez przędziorka chmielowca były odmiany: 'Elsanta', 'Tenira', 'Pegasus' i 'Elkat'. Większość odmian: 'Seal', 'Selection 1248', 'Marmolada', 'Selva", 'Senga Sengana', 'Honeoye', 'Kent', 'Tarda Vicoda', 'Malling Pandora', 'Kastor' i 'Selection 1476' zasiedlona była w średnim stopniu. Najniższą liczebność przędziorka chmielowca notowano na odmianach: 'Polka', 'Karel', 'Selection 723', 'Evita' i 'Vega'.

Słowa kluczowe: truskawka, *Tetranychus urticae*, przędziorek chmielowiec, podatność odmian