

In Lithuania, spring oilseed rape is classified as an early sowing crop because it tolerates slight -2 – -3°C frosts, it is demanding for soil moisture, and most importantly – early sowing helps to partially avoid spread of *Phyllotreta nemorum* L. However, delay of the sowing time can help to prevent spread of *Alternaria brassicae* in spring oilseed rape crop, but decreases the yield. Sowing time affects the phytosanitary condition of crop and the spread of pests, so determining the optimal sowing time for spring oilseed rape in changing climate conditions remains the most important factor for optimal yield.

Methods and materials

The field experiments were carried out in the Experimental Station of Vytautas Magnus University Agriculture Academy in 2018–2019. The aim of the experiment was to evaluate the influence of sowing time on spreading of diseases and pests in spring oilseed rape crop. The first sowing occurred when soil reached physical maturity and the other sowing dates were every 7 days. In 2018, sowing was started on 20th April and continued until 8th June and in 2019, started on 5th April and continued until 7th June. *Phyllotreta* spp. were counted at BBCH 10–19 in 5 locations in meter. Damaged leaf area (%) of pests was assessed on 25 plants using 5 points scale. *Alternaria brassicae* assessed at (BBCH 80–87). From each replication, 100 siliques were harvested for analyses. The percentage of damaged pods and disease intensity were calculated.

Results

In 2018, the highest intensity of *Phyllotreta nemorum* damage was estimated in the spring oilseed rape crop sown during the first 10 days of May. The highest damage of *Alternaria brassicae* were in the latest sown spring oilseed rape crop. In 2019, the intensity of *Phyllotreta nemorum* damage was significantly the lowest in the earliest sown spring oilseed rape crop, and later sowings significantly increased the intensity of this damage. The prevalence of *Phyllotreta nemorum* was influenced by soil temperature, a strong significant linear correlation was found between these indicators ($r = 0.71$; $P \leq 0.05$), as the soil temperature increased, the intensity of *Phyllotreta nemorum* damage increased. Later spring oilseed rape sowing significantly influenced more intensive spread of *Alternaria brassicae* on pods. The studies should be continued to prepare recommendations for spring oilseed rape sowing time.

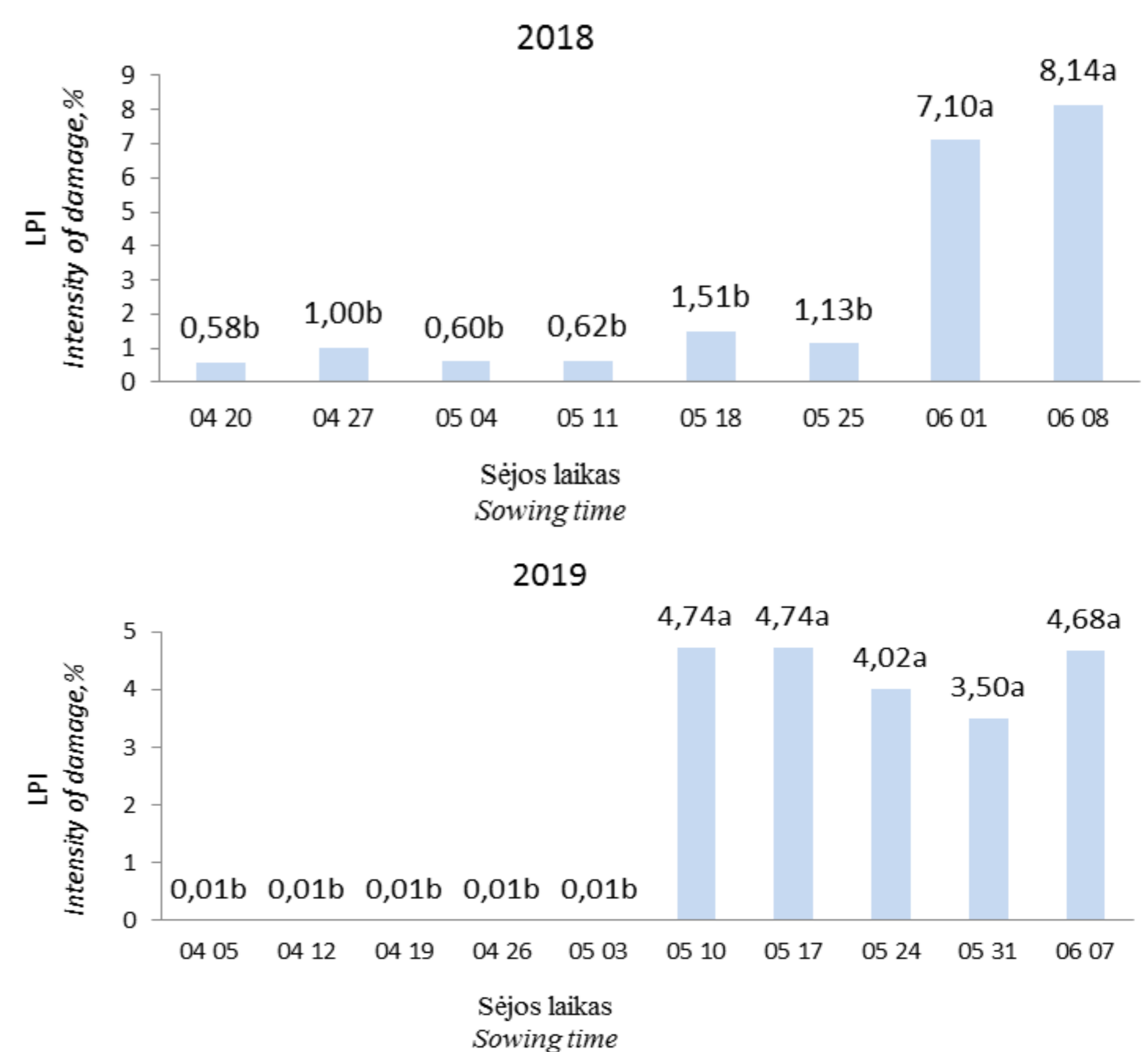


Fig. 1. The intensity of damage of *Alternaria brassicae* in spring rape crop, 2018–2019.

Note: differences between treatment averages marked with different letter (a, b...) are significant ($P \leq 0.05$).

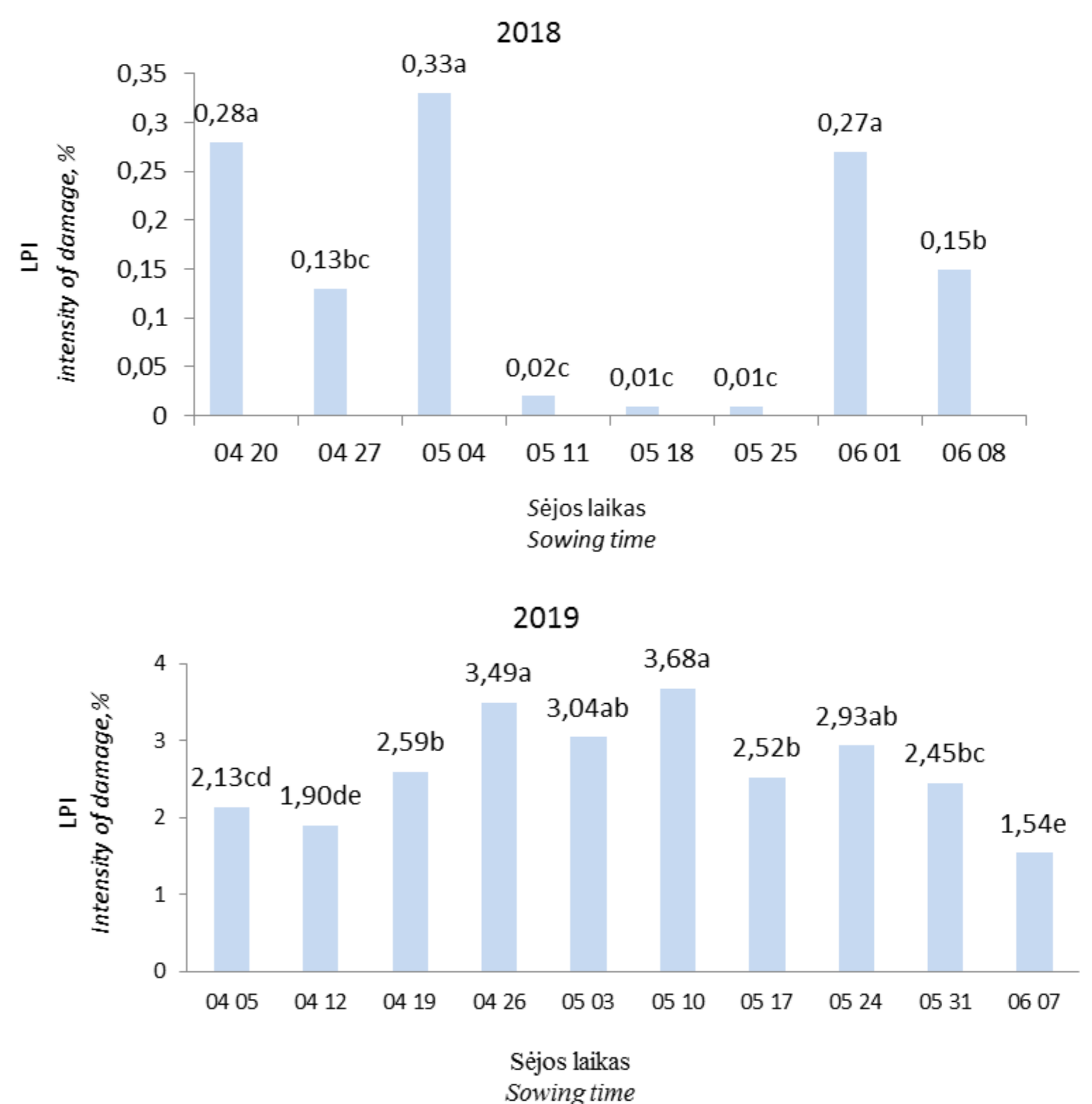


Fig. 2. The intensity of damage of *Phyllotreta* spp. in spring rapeseed crop, 2018–2019.

Note: differences between treatment averages marked with different letter (a, b...) are significant ($P \leq 0.05$).