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Effectiveness of stable fly protectants on adult horses

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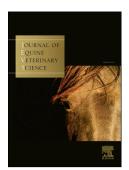
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ACCEPTED MANUSCRIPT

1	Effectiveness of stable fly protectants on adult horses
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8	Abstract
9	Blood feeding flies are common pests affecting horses throughout the world. However,
10	little information is available regarding protectant efficacy for reducing fly annoyance behaviors
11	in horses. The objective of this research was to assess the efficacy of five different fly protectants
12	when used on adult horses. Using a Latin square design, six adult horses were individually
13	penned in outdoor drylots for 2 h each day for 5 consecutive days over 6 weeks. Horses received
14	one of six treatments each week: leggings, citronella spray, leg bands, permethrin spray,
15	pyrethrin spray, or a control (no protectant). Each day, horses were observed from 1230 to 1430
16	h immediately after protectant application. Stable flies (Stomoxys calcitrans L.) on horses' legs
17	and bodies were counted at mins 0, 30, 60 and 120. Fly annoyance behaviors were counted in
18	four 30 min periods: tail swishes (for 5 mins); shoulder twitches (for 5 mins); and head-backs
19	and hoof stomps (simultaneously for 20 mins) for a total of 2 h. Fly annoyance behaviors were
20	reduced by treatment ($P < 0.01$). Leggings reduced hoof stomps from 6.6 down to 2.3 stomps per
21	min, leg bands and leggings reduced head-backs from 3.7 down to 2.0 and 1.6 per min,
22	respectively, and citronella spray reduced tail swishes and shoulder twitches from 47 down to 36
23	per min, and 34 down to 23 per min, respectively. While none of the products eliminated all fly

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