



## Pumpkin Seeds:

*Do they control worms?*

Plant or plant products have been used to treat cases of parasitism in animals in many countries, however results reported have been in the form of observations rather than from controlled studies. The seeds of pumpkins and many other vine crops are believed to contain a deworming compound called cucurbitacin, which has been used to expel tapeworms and roundworms in domestic livestock species for years. Therefore, during the summer of 2008, it was the goal of one of our research projects to investigate a number of natural plants, including pumpkin, in reducing fecal egg counts (FEC) in goats.

For our study, we used 22 goat kids to evaluate the effect of pumpkin seeds in reducing parasite loads. All 22 goats were individually penned on solid concrete floors and received a commercially pelleted meat goat feed daily for a 3

week study. Eleven animals were also given ground pumpkin seeds mixed into feed at a rate of 6 ounces per 75lbs of body weight daily. The other 11 were not supplemented and were used as a control to allow us to better interpret the results. We measured body weights, fecal egg counts

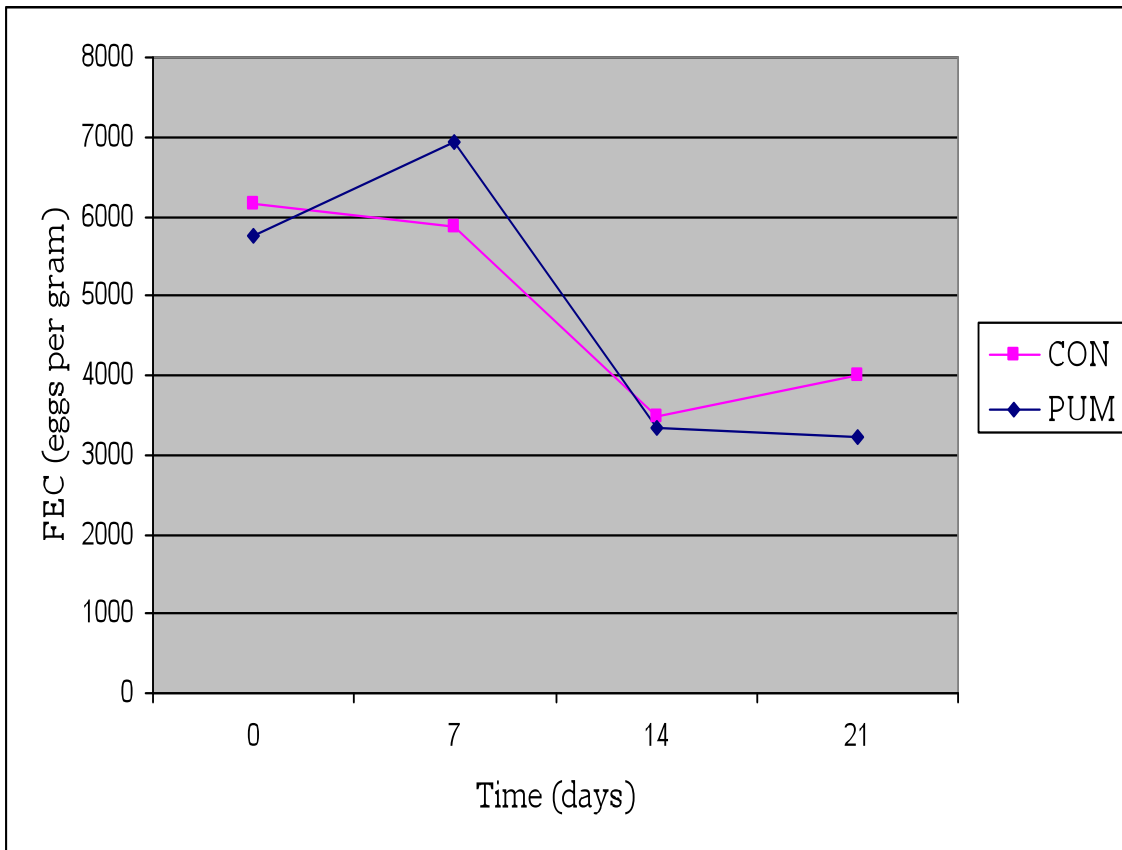
(FEC), and packed cell volumes (PCV; to determine anemia, which is indicative of barber pole worm infection) weekly for 3 weeks to determine if the pumpkin seeds were, in fact, causing an effect. Under the conditions of our study, however, pumpkin seeds were not effective in reducing

FEC in meat goat kids. In addition, feeding pumpkin seeds did not have an effect on body weight or PCV. The FEC averaged 5965 eggs per gram (epg) at the start of the study, 6411 epg on day 7, 3425 epg by day 14 and 3655 epg on day 21 (see graph for individual group FEC). However, we did observe that goat kids were sorting through feed and

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leaving behind a substantial amount of the ground pumpkin seeds (not surprising since we all know goats can be picky eaters!). Therefore, an alternative means of administering the pumpkin seeds might be more effective in ensuring that kids are consuming an amount of pumpkin seeds necessary to see a reduction in FEC. For instance, a preliminary study conducted at Delaware State University previously had indicated that a single pumpkin seed drench (using a similar amount of pumpkin seeds) was effective in preventing a rise in FEC. When compared to an untreated group,

the FEC of the group drenched once with the pumpkin seed drench decreased by 11% while the FEC of the untreated group increased by 56% after seven days of drenching. Therefore, future studies will be done to evaluate testing for longer periods (just in case the effect is not as quick as we'd hope) and we will look at alternative methods of administering the pumpkin seeds (powder form, drench, or mixed with molasses) in order to determine any possible deworming properties that pumpkin seeds might have.



Average Fecal Egg Counts (FEC; in eggs per gram) of meat goat kids fed pumpkin seeds (PUM) or not (CON) over a 21 day period

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