

Can Almond Shell Mulch be Applied to Established Alfalfa Fields Without Impacting Productivity?

Sarah Light¹, Rachael Long²

Limitations on burning, a need to reduce organic matter in the waste stream, and an increased interest in building soil carbon have led to some alfalfa producers applying almond shells to their fields from neighboring orchards. In addition, regulations and incentive funding programs in the state of California are leading to increased application of organic matter to farmland. However, the impact of almond shell application to the alfalfa stand has not been quantified. The objective of this project is to quantify the impact of almond shell application to alfalfa fields on alfalfa yield, stand, and soil health. In this project, 4-8 tons/ac of almond shells were applied to replicated research plots in a three-year old alfalfa stand. Baseline soil samples were collected prior to almond shell application. The following data will be presented: percent cover of weeds, alfalfa, and bare soil collected prior to first cutting and one year after application; alfalfa stand counts after first cutting; alfalfa yields at first cutting and one year after almond shell application. Though this project is in the first year of study, and data is preliminary, there are important implications for alfalfa producers in other regions who may be required to apply high-carbon organic amendments to existing stands. Almond shell application to established alfalfa fields did not appear to negatively affect alfalfa stand productivity in the first year after application.

¹Agronomy Advisor, University of California Cooperative Extension; ²Agronomy and Pest Management Advisor, University of California Cooperative Extension