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| Expected Outcomes | Outputs | **Activities** | **Inputs** | **Evaluation/Monitoring Plan, Measurement Methods** |
| Short-term:  Reduce environmental waste by adding value;  Examine bioactive compounds in fruit by-products as natural anthelmintic source  Examine fruit by-product as a means to improve health and productivity of animal | Extracts will have an effective against parasites  Extracts will not affect fiber digestibility and increase RUP while decreasing RDP | Fecal collection from farms of producer collaborators; Larval egg hatchability, development, and motility studies  Microbial nutritional assays (NDF and Kheldal) | Scientific and producer collaborators  Laboratory facilities and supplies | Examining and analyzing results with scientific collaborators  Analyzing reports from lab work  Quarterly meetings with scientific and producer collaborators |
| Intermediate-term:  Asses most promising treatment combos on differing farms (commercial vs organic)  Communicate research results to ag community | Certain treatment combos will show an increased effect on organic farms vs commercial farms  Results will be reported to various agricultural forums and published in journals, newsletters, fact sheets | Fecal collection from farms of producer collaborators; Larval egg hatchability, development, and motility studies  Submitting written results, summarizing means of achieving results | Scientific and producer collaborators; laboratory facilities  Resources needed to generate printed materials | Quarterly meetings with scientific and producer collaborators; farm visitations  Feedback from agricultural community and producer collaborators |