BENEFITS OF NO-TILL SOYBEAN PRODUCTION TO BOBWHITE QUAIL

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Northern bobwhite populations have decline dramatically in the Southeast. Population declines are likely caused by habitat loss related to intensified land use since the 1970's. Between 1992 and 1998, data from replicated, on-farm research clearly shows habitat loss explains observed declines. Specifically, a paucity of nesting and brood-rearing areas was identified as limiting quail populations on agricultural landscapes. Of special interest were data showing quail used no-till crop fields in preference to conventional tilled fields. Female quail and quail chicks require high diets high in protein and energy for reproduction and growth, respectively. We hypothesized that quail chicks were more likely to meet daily nutritional needs foraging in no-till crop fields than tilled crop fields. Our research found that human-imprinted chicks fed at significantly higher rates in no-till corn and soybean fields. Feeding rates of chicks in fields of soybeans drilled into wheat stubble were such that chicks were capable of meeting daily nutritional needs in < 6 hours of foraging as compared to > 20 hours in tilled soybean fields. In paired-plot comparisons, quail chicks gained significantly more body weight in no-till soybeans than till-planted soybeans. Our results determined that at least in some years, no-till soybeans drilled into wheat stubble provide excellent brood habitat for quail. Our results suggest that no-till practices may be an important component of sustaining quail populations on agricultural landscapes in the South.