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From Trialing to Adaptation: Embracing Nuanced Farmers' Adoption for Agroecological Transitions

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Agroecological intensification is progressively recognized as a potential solution to balance food production, biodiversity, and socio-economic and environmental sustainability. However, maximizing full benefits and scaling up agroecological practices hinges on farmers' acceptance of these practices. Most existing research views farmers' adoption of new practices as a static event, often in binary terms (i.e., adopted/not adopted), focusing on a single practice. This perspective overlooks the complexities and synergies that could facilitate effective packaging and dissemination of agroecological knowledge to reach farmers across diverse contexts and conditions. Through a scoping review, we examined how adopting more nuanced measures of adoption could underpin diversified policymaking and tailored interventions, thereby fostering agroecological transitions in tropical smallholder farming systems. We synthesized studies that applied metrics, such as the scale of adoption, combined/ composite adoption, consistency over time, and intensity of implementation. Our findings delineate the diverse ways farmers engage with new practices, including instances of transient, experimental, and sequential uptake, along with instances of abandonment and occasional rebound, all conditioned by farmers' capabilities, economic conditions, socio-cultural norms, how practices are promoted, agroecological environments, and support systems for improved ecological knowledge. We argue that a strict "one-size-fits-all" approach to knowledge dissemination, technology transfer, and packaging could impede agroecological transitions. Rather, securing farmers' buy-ins, facilitating their experimentation, providing the right mix of practices, and options for adapting practices to local contexts are essential for sustained adoption. We emphasize that nuanced adoption metrics that recognize farmers' agencies and their heterogeneity could help foreground their varied pathways and reshape strategies for lasting agroecological transformations. Finally, we explore the potential applicability of these findings to the European farming context.