‘Back to nature’ or ‘full throttle with science and technology’ for sustainable agriculture?

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ABSTRACT ORIGINAL

Introduction: The transformation of agriculture is essential to addressing global sustainability challenges. Any transformation first requires a perspective. Our view of agriculture is linked to our view of naturalness, artificiality, and unnaturalness. A contrast exists between those who prioritize naturalness as a guiding principle and those who advocate for science and technology. This study examines the philosophical and psychological foundations of these perspectives to help scientifically trained readers navigate the public discourse on sustainable agriculture. Naturalness: The emphasis on naturalness has several roots. Naturalness is associated with purity, authenticity, and moral virtue, shaping preferences in agriculture, environmental policies, and medicine. Philosophical and psychological work suggests the role of intuitive reasoning in shaping these constructs, which can contribute to cognitive biases that influence perceptions of sustainability. Science and Technology: A science-driven approach to sustainability emphasizes rational analysis, technological innovation, and evidence-based decision-making. The scientific community often underestimates how normative values and biases shape public acceptance of technological solutions, which may be perceived as unnatural. Two Cases: The contrast between naturalness and unnaturalness is illustrated through the approaches of organic agriculture and sustainable intensification. Organic agriculture is rooted in commitments to naturalness, but faces challenges such as lower yields. Sustainable intensification emphasizes science and artificial, technological solutions but encounters scepticism in shaping agriculture. Final remark: Bridging a philosophical and psychological contrast is essential for formulating a comprehensive sustainability strategy. An inclusive discourse, informed by awareness of perspectives, can help reconcile competing visions for the future of agriculture.