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Supplementary Table 1. Search strategy and filtering process (Scopus Database)

Search string No.	Search query	Initial results	After year filter (2020–2025/26)	Subject area filter	Article type (Final)	Region/ Language filter	Duplicates removed
String 1	("agro waste" OR "agricultural waste" OR "crop residue" OR "farm residue") AND (disposal OR recycling OR reuse OR valorisation OR management) AND ("soil fertility" OR "soil health" OR "soil productivity")	1491	785	687	513	54	0
String 2	(farmers OR "farming practices" OR "agricultural practices") AND ("crop residue management" OR "waste disposal" OR "waste recycling") AND (SOC OR "soil organic carbon" OR nutrients OR "soil properties")	264	122	103	63	11	3
String 3	(composting OR vermicomposting OR mulching OR biochar OR manure OR "organic amendments") AND ("agro waste" OR "crop waste" OR "residue recycling") AND ("soil fertility" OR "soil improvement" OR "soil productivity")	55	32	26	13	13	0
String 4	("sustainable agriculture" OR "sustainable soil management") AND ("waste utilisation" OR "residue utilisation" OR "agro-waste recycling") AND (fertility OR nutrients OR yield OR productivity)	34	27	21	14	7	0
String 5	(farmers OR "smallholder farmers" OR "farmer perceptions" OR adoption) AND ("waste management" OR "crop residue disposal" OR "agro-waste recycling") AND (sustainability OR "soil health" OR "soil productivity")	1130	941	600	361	38	1
String 6	("environmental impact" OR "soil degradation" OR "soil quality") AND ("agricultural waste" OR "crop residue management") AND (recycling OR mitigation OR restoration OR amendments)	568	338	256	157	26	2

Final Study Selection Summary

- Total duplicates removed: 6
- Articles screened after abstract review: 70 included, 74 excluded
- Articles excluded after full-text assessment: 12 (including access limitations and irrelevance)
- Final studies included in the review: 58