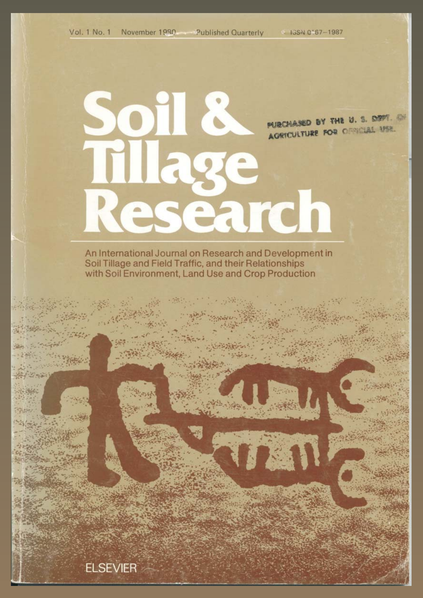
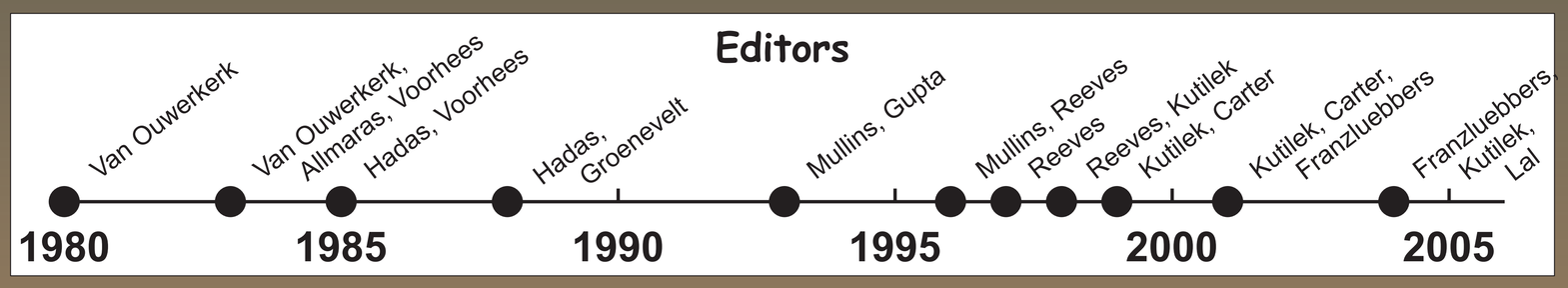
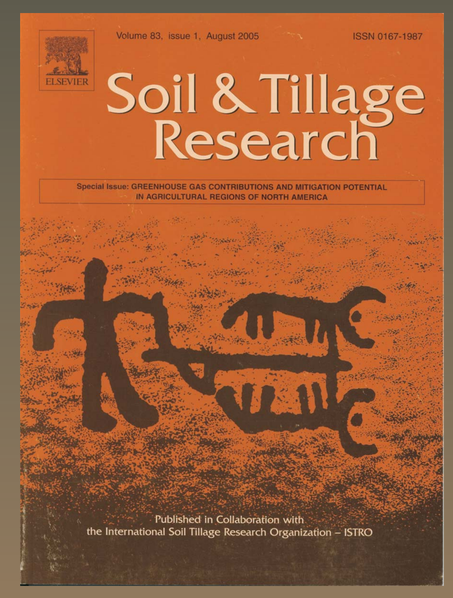


Soil & Tillage Research

Publication History and Assessment of Progress

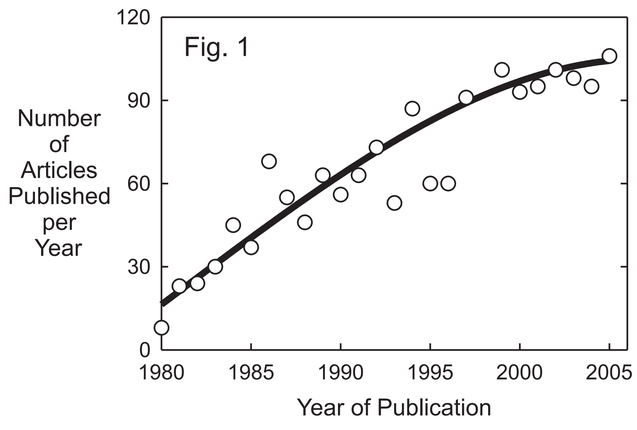


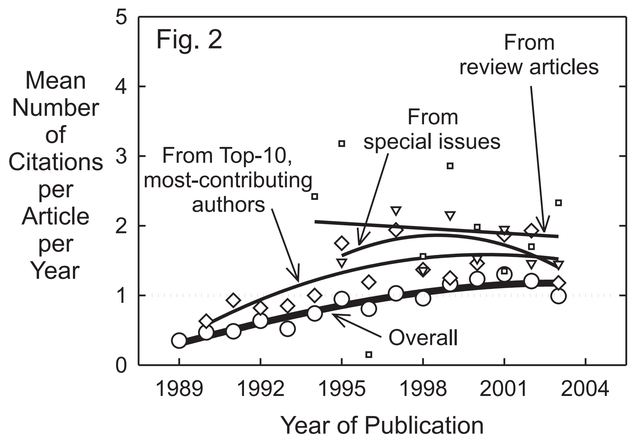
Contacts: afranz@uga.edu, miroslav.kutilek@volny.cz, lal.1@osu.edu

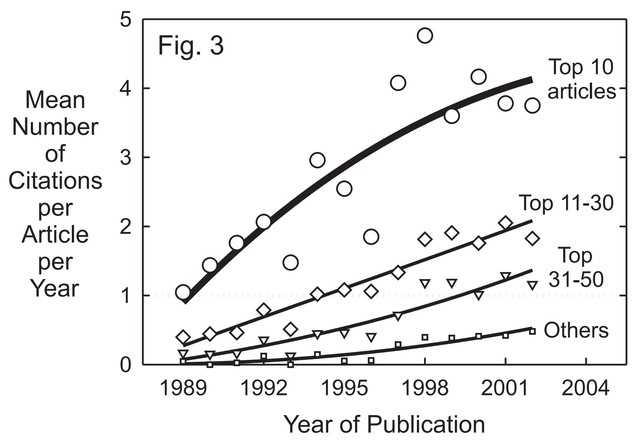


Description of Journal

Soil & Tillage Research is concerned with the changes in physical, chemical and biological properties and processes of the soil environment brought about by soil tillage and field traffic, their effects on both below- and above-ground environmental quality, crop establishment, root development and plant growth, and the interactions among these various effects. This implies research on: characterization or modeling of tillage and field traffic effects on the soil environment; selection, adoption, or development of tillage systems (including reduced cultivation and direct drilling) suitable for specific conditions of soil, climate, topography, irrigation, drainage, crops and crop rotations, intensities of fertilization, degree of mechanization, etc. and the appropriate use of tillage systems to maintain an acceptable balance of crop production, sustainability, and minimum environmental impacts. In this context, papers on the characterization or modeling of tillage effects on: soil physical, chemical and biological properties, processes related to surface and subsurface groundwater quality, soil erosion, C and nutrient cycling and crop production, are most welcome. Papers on soil deformation processes, soil-working tools and traction devices, energy requirements and economic aspects of tillage are also considered. Attention will also be given to the role of tillage in weed, pest and disease control. As of 1998, this journal has incorporated *Soil Technology*.







Findings

Number of published articles has risen steadily from inception of the journal until currently (Fig. 1).

As only *one measure* of the quality of articles, a citation frequency of all articles published has increased steadily from 1989 until today (Fig. 2). Data were obtained from Scopus (www.scopus.com) and account for all citations from the inception of publication.

Impact Factor (IF) is a measure of the importance of scientific journals. It is calculated each year by the Institute for Scientific Information, based on the previous 3 years of citations per article. The IF for *Soil & Tillage Research* has increased during recent years:

Year	IF	Rank	Rejection %
2004	1.24	9	26
2003	1.31	6	.
2002	1.12	9	30
2001	0.98	13	23
2000	0.74	16	23
1999	0.57	19	31
1998	0.55	20	.
1997	0.61	14	.
1996	.	.	.
1995	0.53	13	.
1994	0.79	8	.

Whereas IF is for a 3-year period only, citation frequency from Scopus was from a longer history. The half-life of article citations in soil and agronomy fields is generally 5 to 10 years. Therefore, IF may not accurately reflect the more slowly maturing characteristic of research in soil science.

Increase in quality may be partly attributed to special issues and from the most frequently contributing authors (Fig. 2, Table 2), but more so from several key papers each year that address important issues in soil and tillage research (Fig. 3, Table 1).

In addition, Elsevier reports the most frequently downloaded articles on a quarterly basis and results can be accessed from the journal website (www.elsevier.com/locate/still).

Table 1. List of most frequently cited articles in *Soil & Tillage Research (STILL)* during recent years.

Title	Authors / Citation	Location	Keywords	Citation index
Erosional effects on soil organic carbon stock in an on-farm study on Alfisols in west central Ohio	Shukla MK, Lal R, 2005, STILL 81, 173-181	Ohio USA	Bulk density; Erosion; Deposition; Farm; Manure; No till; Soil organic carbon stock; Tillage	3.0
Towards development of on-line soil moisture content sensor using a fibre-type NIR spectrophotometer	Mouazen AM, De Baerdemaeker J, Ramon H, 2005, STILL 80, 171-183	Aleppo Syria Heverlee Belgium	Moisture content; On-line measurement; Sensor; Spectrophotometer	3.0
Effects of agricultural machinery with high axle load on soil properties of normally managed fields	Schäfer-Landefeld L, Brandhuber R, Fenner S, Koch H-J, Stockfisch N, 2004, STILL 75, 75-86	Friesing, Goettingen Germany	Air permeability; Bulk density; Compaction; High axle load; Porosity; Subsoil; Subsoiling	3.0
Recycling of sewage sludge and household compost to arable land: Fate and effects of organic contaminants, and impact on soil fertility	Petersen SO, Henriksen K, Mortensen GK, Krogh PH, Brandt KK, Sørensen J, Madsen T, Petersen J, Grøn C, 2003, STILL 72, 139-152	Tjele, Aalborg, Roskilde, Silkeborg, Copenhagen, Hørsholm Denmark	Barley; Collembola; Fertilizer value; Mites; Nitrification; Oat; Plasticizer; PLFA; Rape; Surfactant	4.3
Prevention strategies for field traffic-induced subsoil compaction: A review Part 2. Equipment and field practices	Chamen T, Alakukku L, Pires S, Sommer C, Spoor G, Tijink F, Weisskopf P, 2003, STILL 73, 161-174	Bedford UK, Jokionen Finland, Lisbon Portugal, Braunschweig Germany, Bergen op Zoom Netherlands, Zurich Switzerland	Controlled traffic; Ground pressure; In-furrow ploughing; Subsoil compaction; Tramlines; Wheel load	4.0
Suppressing soil-borne diseases with residue management and organic amendments	Bailey KL, Lazarovits G, 2003, STILL 72, 169-180	Saskatchewan, Ontario Canada	Compost; High nitrogen amendments; Manure; Residue; Rotation; Soil-borne diseases; Tillage	4.0
Is there a critical level of organic matter in the agricultural soils of temperate regions: A review	Loveland P, Webb J, STILL 70, 1-18	Bedfordshire, Wolverhampton UK	Critical levels; England and Wales; Soil organic carbon; Soil organic matter; Soil quality; Temperate soils	4.0
Water infiltration and soil structure related to organic matter and its stratification with depth	Franzluebbers AJ, 2002, STILL 66, 197-205	Georgia USA	Bulk density; Conservation tillage; Macroaggregation; Mean-weight diameter; Soil organic carbon; Soil quality	5.0
Soil organic matter stratification ratio as an indicator of soil quality	Franzluebbers AJ, 2002, STILL 66, 95-106	Georgia USA	Conservation tillage; Cropping intensity; Potential nitrogen mineralization; Soil microbial biomass; Soil organic carbon; Soil quality	4.8
Soil organic carbon and fractions of a Rhodic Ferralsol under the influence of tillage and crop rotation systems in southern Brazil	Freixo AA, Machado PLODA, Dos Santos HP, Silva CA, Fadigas FDS, 2002, STILL 64, 221-230	Rio de Janeiro, Rio Grande do Sul Brazil	Density and particle-size fractionation; Soil organic matter; Storage	4.5
Long-term effects of tillage, cover crops, and nitrogen fertilization on organic carbon and nitrogen concentrations in sandy loam soils in Georgia, USA	Sainju UM, Singh BP, Whitehead WF, 2002, STILL 63, 167-179	Georgia USA	Management practices; Organic carbon; Organic nitrogen; Sandy loam; Southeast USA	4.5
Soil management concepts and carbon sequestration zin cropland soils	Follett RF, 2001, STILL 61, 77-92	Colorado USA	Carbon; Carbon emissions from agriculture; Carbon sequestration; Conservation tillage; Energy use; Irrigation; Soil fertility; Soil organic carbon; Residue management	12.0
Tillage systems and soil ecology	Kladivko EJ, 2001, STILL 61, 61-76	Indiana USA	Biodiversity; Microflora; No till; Soil fauna; Tillage	3.6
Cultivation effects on soil biological properties, microfauna and organic matter dynamics in Eutric Gleysol and Gleyic Luvisol soils in New Zealand	Saggar S, Yeates GW, Shepherd TG, 2001, STILL 58, 55-68	Palmerston North New Zealand	Microbial biomass; Nematodes; New Zealand; Organic matter; Sustainability	3.0
Tillage, cover cropping, and poultry litter effects on selected soil chemical properties	Nyakatawa EZ, Reddy KC, Sistani KR, 2001, STILL 58, 69-79	Alabama, Mississippi USA	Cotton; Cover crop; Mulch till; No till; Poultry litter; RUSLE; Soil erosion; Soil organic matter	3.0
Influence of conservation tillage and rotation length on potato productivity, tuber disease and soil quality parameters on a fine sandy loam in eastern Canada	Carter MR, Sanderson JB, 2001, STILL 63, 1-13	Prince Edward Island Canada	Conservation tillage; Eastern Canada; Fine sandy loam; Podzol; Potato; Rhizoctonia; Rotation; Soil organic carbon; Soil structure	3.0
Relationship of soil organic matter dynamics to physical protection and tillage	Balesdent J, Chenu C, Balabane M, 2000, STILL 53, 215-230	Sait Paul les Durance, Versailles France	Aggregates; Land use; Organic matter decomposition; Soil carbon storage	8.7
Soil organic carbon and 13C abundance as related to tillage, crop residue, and nitrogen fertilization under continuous corn management in Minnesota	Clapp CE, Allmaras RR, Layese MF, Linden DR, Dowdy RH, 2000, STILL 55, 127-142	Minnesota USA	Carbon storage; Chisel tillage; Corn-derived carbon; Moldboard tillage; No tillage	5.0
Organic matter storage in a sandy clay loam acrisol affected by tillage and cropping systems in southern Brazil	Bayer C, Mielniczuk J, Amado TJC, Martin-Neto L, Fernandes SV, 2000, STILL 54, 101-109	Santa Catarina, Riod Grande do Sul, Sao Paulo Brazil	Cropping systems; No tillage; Soil organic matter; Soil tillage; Sustainability	4.5
Tillage, habitat space and function of soil microbes	Young IM, Ritz K, 2000, STILL 53, 201-213	Scotland UK	Microbial activity; Nitrogen transformations; Soil pore network; Soil structure; Spatial heterogeneity; Tillage	4.5
Field N2O, CO2 and CH4 fluxes in relation to tillage, compaction and soil quality in Scotland	Ball BC, Scott A, Parker JP, 1999, STILL 53, 29-39	Edinburgh UK	Compaction; No till; Soil quality; Tillage; Trace gas exchange	5.9
Crop residue and tillage effects on carbon sequestration in a Luvisol in central Ohio	Duiker SW, Lal R, 1999, STILL 52, 73-81	Ohio USA	Aggregation; Carbon sequestration; Conservation tillage; Greenhouse effect; Mulching; Soil organic matter; Soil quality	4.6
Tillage effects on soil organic carbon distribution and storage in a silt loam soil in Illinois	Yang X-M, Wander MM, 1999, STILL 52, 1-9	Illinois USA	Distribution; Equivalent mass; Soil organic carbon; Storage; Tillage	3.6
Tillage erosion and translocation: Emergence of a new paradigm in soil erosion research. Preface	Govers G, Lobb DA, Quine TA, 1999, STILL 51, 167-174	Leuven Belgium, Manitoba Canada, Devon UK	Diffusion constant; Palouse; Soil displacement distance; Tillage deposition; Tillage translocation	3.6
Management effects on soil C storage on the Canadian prairies	Janzen HH, Campbell CA, Izaurralde RC, Ellert BH, Juma N, McGill WB, Zentner RP, 1998, STILL 47, 181-195	Alberta, Saskatchewan Canada	Carbon; Carbon dioxide; Crop rotation; Fertilizer; Greenhouse gas; Tillage	8.8
Carbon distribution and losses: Erosion and deposition effects	Gregorich EG, Greer KJ, Anderson DW, Liang BC, 1998, STILL 47, 291-302	Ontario, Saskatchewan Canada	Soil carbon; Deposition; Erosion; Mineralization; Productivity	6.6
Reduced tillage and increasing cropping intensity in the Great Plains conserves soil C	Peterson GA, Halvorson AD, Havlin JL, Jones OR, Lyon DJ, Tanaka DL, 1998, STILL 47, 207-218	Colorado, North Dakota, Kansas, Texas, Nebraska USA	Crop rotation; Dryland; No till; Soil carbon; Soil organic matter; Tillage	5.1
Soil microbial activity, nitrogen cycling, and long-term changes in organic carbon pools as related to fallow tillage management	Doran JW, Elliott ET, Paustian K, 1998, STILL 49, 3-18	Nebraska, Colorado USA	Carbon sequestration; Fallow tillage management; Microbial carbon and nitrogen transformations; Soil quality	5.0
The role of soil organic matter in maintaining soil quality in continuous cropping systems	Reeves DW, 1997, STILL 43, 131-167	Alabama USA	Conservation tillage; Crop residues; Crop rotation; Long-term experiments; Soil carbon; Soil management; Soil physical properties; Soil quality; Sustainable agriculture	8.0
Impact of tillage practices on organic carbon and nitrogen storage in cool, humid soils of eastern Canada	Angers DA, Bolinder MA, Carter MR, Gregorich EG, Drury CF, Liang BC, Voroney RP, Simard RR, Donald RG, Beyaert RP, Martel J, 1997, STILL 41, 191-201	Quebec, Prince Edward Island, Ontario, Nova Scotia Canada	Carbon; Nitrogen; Organic matter; Soil profile; Tillage	6.9
Residue management, conservation tillage and soil restoration for mitigating greenhouse effect by CO2-enrichment	Lal R, 1997, STILL 43, 81-107	Ohio USA	Aggregation; Crop residue management; Greenhouse effect; Land restoration; Soil carbon dynamics	6.0
Tillage and crop rotation effects on soil organic C and N in a coarse-textured Typic Haploboroll in southwestern Saskatchewan	Campbell CA, McConkey EG, Zentner RP, Selles F, Curtin D, 1996, STILL 37, 3-14	Saskatchewan Canada	Bulk density; Carbon sequestration; No till; Organic nitrogen; Summer fallow	3.3
Soil organic matter pools with conventional and zero tillage in a cold, semiarid climate	Franzluebbers AJ, Arshad MA, 1996, STILL 39, 1-11	Georgia USA, Alberta Canada	Carbon mineralization; Microbial biomass; Nitrogen mineralization; Organic matter; Semiarid; Tillage	2.2
Soil organic carbon, microbial biomass and CO2-C production from three tillage systems	Alvarez R, Diaz RA, Barbero N, Santanatoglia OJ, Blotta L, 1995, STILL 33, 17-28	Buenos Aires, Pergamino Argentina	Carbon mineralization; Metabolic quotient; Microbial biomass; Soil organic matter; Soil respiration	3.6
Applications of fractals in STILL: A review	Perfect E, Kay BD, 1995, STILL 36, 1-20	Kentucky USA, Ontario Canada	Fractal dimension; Fractals; Scaling; Soils; Tillage; Transport	3.2
Long-term tillage effects on soil quality	Karlen DL, Wollenhaupt NC, Erbach DC, Berry EC, Swan JB, Eash NS, Jordahl JL, 1994, STILL 32, 313-327	Iowa, Wisconsin USA	Conservation tillage; Soil property; Soil quality index; Tillage; System	4.6
Crop residue effects on soil quality following 10-years of no-till corn	Karlen DL, Wollenhaupt NC, Erbach DC, Berry EC, Swan JB, Eash NS, Jordahl JL, 1994, STILL 31, 149-167	Iowa, Wisconsin USA	Crop residue management; No tillage; Soil quality index	3.7
Trends in tillage practices in relation to sustainable crop production with special reference to temperate climates	Cannell RQ, Hawes JD, 1994, STILL 30, 245-282	Virginia USA	Conservation tillage; Direct drilling; Erosion; No till; Soil organic matter; Soil quality; Tillage practices	3.6
Tillage effects on soil degradation, soil resilience, soil quality, and sustainability	Lal R, 1993, STILL 27, 1-8	Ohio USA	None listed	2.2
Long-term effects of conventional and no-tillage on selected soil properties and crop yields in Canterbury, New Zealand	Francis GS, Knight TL, 1993, STILL 26, 193-210	Canterbury New Zealand	None listed	2.2
Quantifying tillage erosion rates due to moldboard plowing	Lindstrom MJ, Nelson WW, Schumacher TE, 1992, STILL 24, 243-255	Minnesota, South Dakota USA	None listed	5.4
Influence of reduced tillage systems on organic matter, microbial biomass, macro-aggregate distribution and structural stability of the surface soil in a humid climate	Carter MR, 1992, STILL 23, 361-372	Prince Edward Island Canada	None listed	3.4
Influence of mixed cropping rotations (pasture-arable) on organic matter content, water stable aggregation and clod porosity in a group of soils	Haynes RJ, Swift RS, Stephen RC, 1990, STILL 19, 77-87	Canterbury New Zealand	None listed	4.9
The role of organic matter in soil compactibility: a review of some practical aspects	Soane BD, 1989, STILL 16, 179-201	Penicuik UK	None listed	3.1
Soil respiration in conventional and no-tillage agroecosystems under different winter cover crop rotations	Hendrix PF, Chun-Ru H, Groffman PM, 1988, STILL 12, 135-148	Georgia USA	None listed	2.2

Table 2. Most frequent contributors to *Soil & Tillage Research*.

Author	Location	Number of articles
Lal, Rattan	USA, Ohio	55
Horn, Rainer	Germany, Kiel	31
Dexter, Anthony	Poland, Pulawy	25
Carter, Martin	Canada, Prince Edward Island	21
Arvidsson, Johan	Sweden, Uppsala	16
Franzluebbers, Alan	USA, Georgia	15
Kay, Bev	Canada, Ontario	15
Poesen, Jean	Belgium, Leuven	14
Hakansson, Inge	Sweden, Uppsala	13
Schjonning, Per	Denmark, Tjele	13
Unger, Paul	USA, Texas	13
Ball, B.C.	UK, Edinburgh	12
Chan, K.Y.	Australia, New South Wales	12
Karlen, Doug	USA, Iowa	12
Koolen, Jos	Netherlands, Wageningen	12
Zentner, R.P.	Canada, Saskatchewan	12
Arshad, Charlie	Canada, Alberta	11
Campbell, Con	Canada, Saskatchewan	11
Gregorich, Ed	Canada, Ontario	10
Lowery, Birl	USA, Wisconsin	10
Richard, Guy	France, Laon	10
Schumacher, Tom	USA, South Dakota	10
So, Hwat Bing	Australia, Queensland	10

The journal is becoming stronger, because of the dedicated contributions of many authors and editorial board members from all around the world. We should strive to make further improvements in the journal and in our research efforts to serve agriculture, the environment, and society.

Presented at the 17th Conference of the International Soil Tillage Research Organization from 28 August to 3 September 2006 in Kiel, Germany.