

Model Review Form	
Soil Enrichment Protocol V1.1	
Model Name & Version	DNDC v11.0
Model Developer	ReGrow
SEP Model Requirements and Guidance Version	Version 1.1a
Model Reviewer(s)	Dr. Brian McConkey (Viresco Solutions)
Project-Specific (Type 1) or Generalized Validation (Type 2)?	Generalized (Type 2)
Model Review Report Submittal Date	1-Sep-2023 & 18-Dec-2023 addendum

NOT valid LRR x PC x CFG
 Valid LRR x PC x CFG, no stipulations
 Valid LRR x PC x CFG, some stipulations

Validated Parameters by Emission Source

SOC									
LRR (list all as applicable)	PC (list individually)	Crop Functional Groups							
		C4A	C3A	C3AN	C3AS	C3AF	C3P	C3PN	C4P
C, E, F, G, H, K, L, M, N, O, P	Crop	✓	✓	✓	✓	✓	—	—	—
C, E, F, G, H, K, L, M, N, O, P	InN	✓	✓	✓	✓	✓	—	—	—
C, E, F, G, H, K, L, M, N, O, P	TR	✓	✓	✓	✓	—	—	—	—
C, E, F, G, H, K, L, M, N, O, P	OrN	✓	✓	✓	✓	✓	—	—	—
C, E, F, G, H, K, L, M, N, O, P	Water	✓	✓	✓	✓	✓	—	—	—
T	Crop					✓			
T	InN					✓			
T	Water					✓			
Valid soil texture classes:		CL, SiCL, SCL, L, SiL, SL							

N2O									
LRR (list all as applicable)	PC (list individually)	Crop Functional Groups							
		C4A	C3A	C3AN	C3AS	C3AF	C3P	C3PN	C4P
C, E, F, G, H, K, L, M, N, O, P	Crop	✓	✓	✓	✓	✓	—	—	—
C, E, F, G, H, K, L, M, N, O, P	InN	✓	✓	✓	✓	✓	—	—	—
C, E, F, G, H, K, L, M, N, O, P	TR	✓	✓	✓	✓	—	—	—	—
C, E, F, G, H, K, L, M, N, O, P	OrN	✓	✓	✓	✓	✓	—	—	—
C, E, F, G, H, K, L, M, N, O, P	Water	✓	✓	✓	✓	✓	—	—	—
T	Crop					✓			
T	InN					✓			
T	Water					✓			
Valid soil texture classes:		C, CL, SiCL, SCL, L, SiL, SL, LS							

CH4									
LRR (list all as applicable)	PC (list individually)	Crop Functional Groups							
		C4A	C3A	C3AN	C3AS	C3AF	C3P	C3PN	C4P
C, E, F, G, H, K, L, M, N, O, P, T	Crop					✓			
C, E, F, G, H, K, L, M, N, O, P, T	InN					✓			
C, E, F, G, H, K, L, M, N, O, P, T	Water					✓			
C, E, F, G, H, K, L, M, N, O, P, T	OrN					✓			
C, E, F, G, H, K, L, M, N, O, P, T	TR					✓			
Valid soil texture classes:		C, SiC, CL, SiCL, L, SiL							

Land Resource Region (LRR)	
Abv	Description
C	California Subtropical Fruit, Truck, and Specialty Crop Region
E	Rocky Mountain Range and Forest Region
F	Northern Great Plains Spring Wheat Region
G	Western Great Plains Range and Irrigated Region
H	Central Great Plains Winter Wheat and Range Region
K	Northern Lake States Forest and Forage Region
L	Lake State Fruit, Truck Crop, and Dairy Region
M	Central Feed Grains and Livestock Region
N	East and Central Farming and Forest Region
O	Mississippi Delta Cotton and Feed Grains Region
P	South Atlantic and Gulf Slope Cash Crops, Forest, and Livestock Region
T	Atlantic and Gulf Coast Lowland Forest and Crop Region

Practice Category (PC)	
Abv	Description
TR	Soil disturbance and/or residue management
Crop	Cropping practices, planting and harvesting
InN	Inorganic nitrogen fertilizer application
OrN	Organic amendments application
Water	Water management/irrigation

Crop Functional Group (CFG)	
Abv	Description
C4A	C4 Annuals
C3A	C3 Annual herbaceous
C3AN	C3 Annual N-fixing herbaceous
C3AS	C3 Annual shrub
C3AF	C3 Annual herbaceous flooded
C3P	C3 Perennial
C3PN	C3 Perennial N-fixing
C4P	C4 Perennial

Soil Texture Classes			
Abv	Description	Abv	Description
S	Sand	SCL	Sandy Clay Loam
LS	Loamy Sand	CL	Clay Loam
SL	Sandy Loam	SiCL	Silty Clay Loam
L	Loam	SC	Sandy Clay
SiL	Silt Loam	SiC	Silty Clay
Si	Silt	C	Clay

LRR x PC x CFG Limitations				
Emission Source	LRR	PC	CFG	Reviewer Comments
SOC	C, E, F, G, H, K, L, M, N, O, P	Crop, InN, TR, OrN, Water	C3P, C3PN, C4P	Limitations for the extent project may include perennial crops in it's project domain. CAR is implementing recommendations from the reviewer in the V10.3 report to limit application of DNDC to projects where the sum of the absolute values of area changes of, and area of practice categories applied to, perennial crops is less than 25% of total project area. This limitation holds until such time that validation data is expanded.
N2O	C, E, F, G, H, K, L, M, N, O, P	Crop, InN, TR, OrN, Water	C3P, C3PN, C4P	Limitations for the extent project may include perennial crops in it's project domain. CAR is implementing recommendations from the reviewer in the V10.3 report to limit application of DNDC to projects where the sum of the absolute values of area changes of, and area of practice categories applied to, perennial crops is less than 25% of total project area. This limitation holds until such time that validation data is expanded.

Additional Comments on Model Usage	
Topic	Comments