Appendix A The different equipment for cutting the *Rumex* taproot in connection with mouldboard ploughing: (1) Howard Rotovator with L-knife before ploughing in Experiment 1, (2) cutting the taproot by replacing the skimmer on the plough with a modified body of Kverneland Ecomat in Experiment 2, or (3) cutting the taproot during ploughing using a custom-made knife placed behind the skimmer in Experiment 3. (4) Taproot of *Rumex longifolius,* from E. Korsmo weed posters, illustration: K. Quelprud. Reprinted with permission from NIBIO.

Appendix B ANOVA table for Experiment 1. The effect of renewal time (RT), taproot cutting (Cut) and companion crop (CC) was determined for dock density (divided into root and seed plants), dock biomass, crop and non-dock weed biomass and crop coverage. When a measure was sampled more than once, assessment time (Time) was added as a repeated measure. Valdres 2007 (VA07) was analysed separately from Tingvoll 2007 (TI07) and Tromsø 2007 (TR07) because at VA07 taproot cutting was not followed by ploughing in the summer renewed plots. Dock density pre-treatment was added as a covariate. Bold numbers indicate P-values ≤ 0.05.
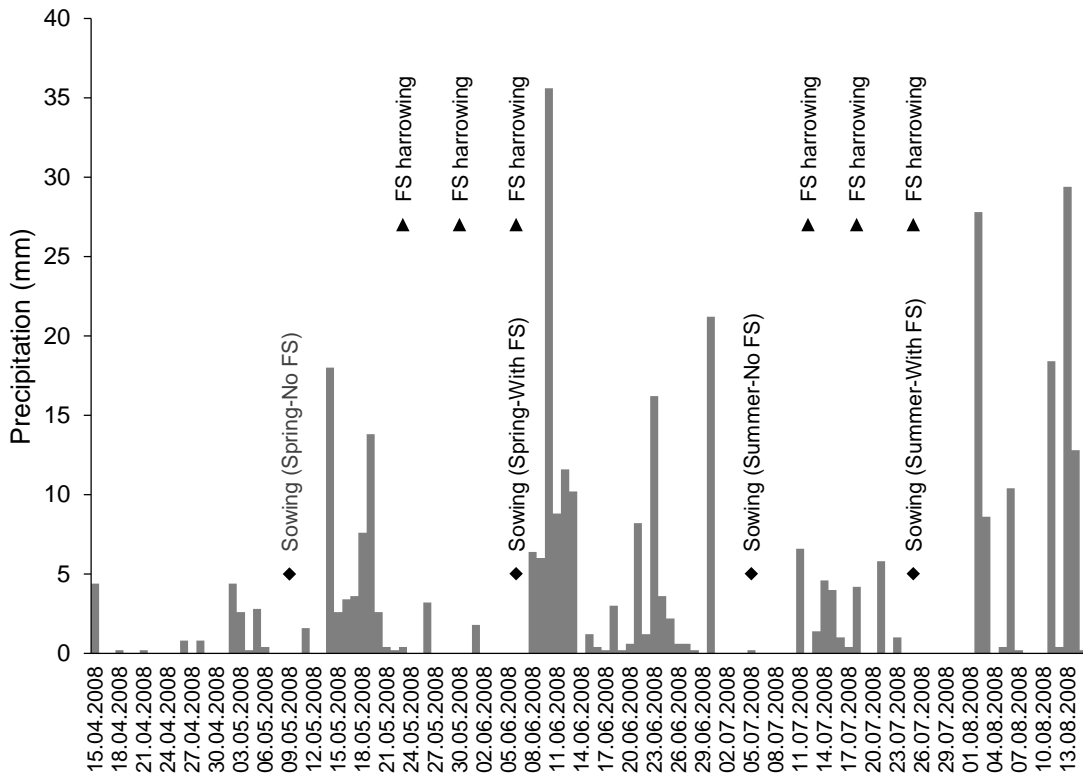
	Dock density		Root Plants		Seed Plants		Dock biomass		Crop and non-dock weed biomass		Crop coverage (%)	
	VA07	TI07+TR07	VA07	TI07+TR07	VA07	TI07+TR07	VA07	TI07+TR07	VA07	TI07+TR07	VA07	TI07+TR07
Renewal Time (RT)	**<.0001**	**0.01**	**0.01**	**0.001**	**0.0003**	**0.0009**	**0.007**	0.1	**<.0001**	**0.03**	**0.006**	0.4
Taproot Cutting (Cut)	0.5	0.8	0.06	0.09	0.6	0.8	0.1	0.2	0.3	0.6	**0.04**	0.7
RT*Cut	0.8	0.6	**0.003**	0.9	0.9	1.0	0.4	0.8	**0.04**	0.3	**0.03**	0.4
Companion crop (CC)	0.2	0.07	0.8	**0.003**	0.8	0.06	0.08	**0.0004**	0.3	**0.04**	0.8	**<.0001**
RT*CC	0.4	**0.05**	0.9	**0.03**	0.5	0.4	0.2	0.07	0.2	**0.04**	0.7	**<.0001**
Cut*CC	0.6	0.9	0.8	0.4	0.9	0.7	0.2	0.4	1	0.12	0.9	0.2
RT*Cut*CC	0.7	0.2	0.1	0.1	0.5	0.9	0.1	0.08	0.9	0.4	0.8	0.6
Assessment Time (Time)	**<.0001**	**<.0001**						**<.0001**		**<.0001**		
RT*Time	**<.0001**	**<.0001**						0.1		**0.02**		
Cut*Time	0.2	1.0						0.4		0.8		
RT*Cut*Time	0.2	0.5						0.4		0.6		
CC*Time	0.9	0.1						0.1		0.7		
RT*CC*Time	0.6	0.08						**0.05**		**0.005**		
Cut*CC*Time	0.7	0.8						0.9		0.1		
RT*Cut*CC*Time	0.7	0.6						0.07		0.3		
Site		0.1		**0.0008**		**0.01**		**<.0001**		**<.0001**		0.06
Site*RT		0.8		0.9		0.5		0.7		0.4		**0.001**
Site*Cut		0.3		0.5		0.4		0.8		0.9		0.2
Site*RT*Cut		0.1		**0.05**		0.6		**0.02**		0.4		**0.05**
Site*CC		0.8		**0.002**		0.5		0.7		**0.03**		**<.0001**
Site*RT*CC		0.2		0.2		**0.03**		**0.007**		1.0		0.9
Site*Cut*CC		0.2		0.4		0.4		0.8		0.08		0.7
Site*RT*Cut*CC		0.8		0.5		0.9		0.9		0.2		0.9
Site*Time		**0.002**						**<.0001**		**0.0001**		
Site*RT*Time		**0.01**						0.9		0.5		
Site*Cut*Time		0.3						0.4		0.2		
Site*RT*Cut*Time		0.8						0.6		0.7		
Site*CC*Time		0.8						0.8		0.9		
Site*RT*CC*Time		0.5						0.1		0.3		
Site*Cut*CC*Time		0.9						**0.04**		0.1		
Site*RT*Cut*CC*Time		1						0.8		0.6		
Dock density pre-treatment	0.09	**0.001**	**0.006**	**<.0001**	**0.003**	0.3	0.9	**0.001**	0.4	0.6	0.4	0.4
Transformation	Log$_e$ (n+1)	Log$_e$ (n+1)	Log$_e$ (n+1)	Log$_e$ (n+1)	Log$_e$ (n+1)	Log$_e$ (n+1)	Log$_e$ (n+1)	Log$_e$ (n+1)				

Appendix C ANOVA table of Experiment 2, conducted at Tingvoll 2008 (TI08). The effect of renewal time (RT), taproot cutting (Cut) and false seedbed (FS) was determined for dock density (divided into root and seed plants), dock biomass, crop and other weed biomass, crop, dock and total weed cover (including dock cover). When a measure was sampled more than once, assessment time (Time) was added as a factor, as a repeated measure. Dock density pre-treatment was added as a covariate. Bold numbers indicate P-values ≤ 0.05.

	Experiment 2							
	Dock density	Root plants	Seed plants	Dock biomass	Crop and non-dock weed biomass	Crop coverage (%)	Dock coverage (%)	Total weed cover (%)
Renewal Time (RT)	**0.005**	1.0	0.3	0.3	**0.01**	0.6	0.4	**0.03**
Taproot cutting (Cut)	0.5	0.2	0.6	0.9	0.2	0.8	0.1	0.6
RT*Cut	0.8	0.6	0.8	0.4	0.7	0.2	0.5	0.7
False seedbed (FS)	0.8	0.4	0.7	**0.006**	**0.0004**	0.1	0.2	0.5
RT*FS	**0.005**	0.2	**0.0003**	0.2	**0.0005**	**0.0002**	0.3	**<.0001**
Cut*FS	0.6	0.2	0.5	0.9	0.5	0.2	0.4	0.2
RT*Cut*FS	0.1	0.1	0.2	0.5	0.6	0.6	0.3	0.6
Assessment Time (Time)	**0.004**							
RT*Time	0.2							
Cut*Time	0.5							
RT*Cut*Time	0.7							
FS*Time	0.7							
RT*FS*Time	0.1							
Cut*FS*Time	0.4							
RT*Cut*FS*Time	0.5							
Dock density pre-treatment	**0.002**	**<.0001**	**0.04**	0.08	**0.008**	0.2	**0.01**	0.1
Transformation	$Log_e (n+1)$	$Log_e (n+1)$	$Log_e (n+1)$	$Log_e (n+1)$	$Log_e (n+1)$			

Appendix D ANOVA of Experiment 3, conducted at Mysen 2009 (MY09). The effect of ploughing depth (Depth), taproot cutting (Cut) and skimmer use (Skim) on dock root plants and dock biomass. Since root plant density was sampled more than once, assessment time (Time) was added as a factor, as a repeated measure. Dock density pre-treatment was added as a covariate. Bold numbers indicate P-values ≤ 0.05.

Experiment 3		
	Root plants	Dock biomass
Plowing Depth (Depth)	**0.04**	0.3
Taproot Cutting (Cut)	0.4	0.08
Depth*Cut	0.2	0.1
Skimmer (Skim)	0.09	0.08
Depth*Skim	1	0.9
Cut*Skim	0.4	0.5
Depth*Cut*Skim	0.3	0.5
Assessment Time (Time)	**0.001**	
Depth*Time	**0.03**	
Cut*Time	0.8	
Depth*Cut*Time	0.8	
Skim*Time	0.2	
Depth*Skim*Time	0.9	
Cut*Skim*Time	0.6	
Depth*Cut*Skim*Time	0.9	
Dock density pre-treatment	**0.002**	**0.004**
Transformation	Log_e (n+1)	Log_e (n+1)

Appendix E Precipitation data in the renewal year of Experiment 2 (i.e. trial TI08) with the dates for crop sowing and false seedbed harrowing indicated. FS=False seedbed.