

Table 1. Cover crop treatments included in field experiments at the UW Arlington Agricultural Research Station (AARS-WI), Dickinson Research Extension Center (DREC-ND), ISU Neely-Kinyon Research Farm in IA (NKRF-IA), and the UM Southwest Research and Outreach Center (SWROC-MN) during 2009 through 2011.

Cover crop treatments	Locations							
	AARS-WI		DREC-ND		NKRF-IA		SWROC-MN	
	2009	2010	2009	2010	2009	2010	2009	2010
<u>Seeded/Established in spring</u>								
Fababean	-	-	27 May	11 May	-	-	-	-
Spring check (no cover crop)	-	-	27 May	11 May	-	-	-	-
Spring mix	-	-	27 May	11 May	-	-	-	-
Sudangrass	-	-	27 May	02 June	-	-	-	-
Spring rye	-	-	28 May	11 May	-	-	-	-
Spring triticale	-	-	27 May	11 May	-	-	-	-
<u>Seeded/Established in Fall</u>								
Austrian winter pea	8 Sep.	13 Sep.	13 Oct.	08 Sep.	24 Sep.	18 Oct.	4 Sep.	23 Aug.
Austrian winter pea + winter rye	-	-	-	-	24 Sep.	18 Oct.	-	-
Winter barley	8 Sep.	13 Sep.	-	-	-	-	-	-
Fall check (no cover crop)	-	-	24 Sep.	13 Sep.	24 Sep.	18 Oct.	-	-
Fall mix	-	-	06 Aug.	21-Jul	-	-	-	-
Hairy vetch	8 Sep.	13 Sep.	06 Aug.	13 Aug.	24 Sep.	18 Oct.	4 Sep.	23 Aug.
Winter rye	8 Sep.	13 Sep.	12 Oct.	13 Sep.	24 Sep.	18 Oct.	4 Sep.	23 Aug.
Winter triticale	8 Sep.	13 Sep.	13 Oct.	13 Sep.	24 Sep.	18 Oct.	4 Sep.	23 Aug.

Table 2. Dates of disking (D), mowing (M), rolling-crimping (RC), and undercutting (U) cover crop treatments at the UW Arlington Agricultural Research Station in WI (AARS-WI), Dickinson Research Extension Center in ND (DREC-ND), ISU Neely-Kinyon Research Farm in IA (NKRF-IA), and the UM Southwest Research and Outreach Center in MN (SWROC-MN) during 2009-10 and 2010-11 growing seasons.

Cover crop treatments	Locations									
	AARS-WI		DREC-ND				NKRF-IA		SWROC-MN	
	M	RC	D	M	RC	U	D	RC	M	RC
2009-10 Field Experiments										
<i>2009</i>										
<u>Seeded/Established in spring</u>										
Fababean	-	-	05 Aug.	05 Aug.	05 Aug.	11 Aug.	-	-	-	-
Spring check (no cover crop)	-	-	-	-	-	-	-	-	-	-
Spring mix	-	-	05 Aug.	05 Aug.	05 Aug.	11 Aug.	-	-	-	-
Sudangrass	-	-	05 Aug.	05 Aug.	05 Aug.	11 Aug.	-	-	-	-
Spring rye	-	-	05 Aug.	05 Aug.	05 Aug.	11 Aug.	-	-	-	-
Spring triticale	-	-	05 Aug.	05 Aug.	05 Aug.	11 Aug.	-	-	-	-
<u>Seeded/Established in Fall</u>										
<i>2010</i>										
Austrian winter pea	18 June	18 June	04 May	25 June	30 June	24 June	10 July ^A	12 July	07 June	07 June
Austrian winter pea + winter rye	-	-	-	-	-	-	10 July	12 July	-	-
Winter barley	28 May	28 May	-	-	-	-	-	-	-	-
Fall check (no cover crop)	-	-	-	-	-	-	-	-	-	-
Fall mix	-	-	04 May	25 June	30 June	24 June	-	-	-	-
Hairy vetch	18 June	18 June	04 May	25 June	30 June	24 June	10 July	12 July	07 June	07 June
Winter rye	28 May	28 May	04 May	25 June	30 June	24 June	10 July	12 July	07 June	07 June
Winter triticale	28 May	28 May	04 May	25 June	30 June	24 June	10 July	12 July	07 June	07 June
2010-11 Field Experiments										
<i>2010</i>										
<u>Seeded/Established in spring</u>										
Fababean	-	-	09 July	02 Aug.	01 Aug.	02 Aug.	-	-	-	-
Spring check (no cover crop)	-	-	09 July	02 Aug.	01 Aug.	02 Aug.	-	-	-	-
Spring mix	-	-	09 July	02 Aug.	01 Aug.	02 Aug.	-	-	-	-
Sudangrass	-	-	09 July	18 Aug.	18 Aug.	18 Aug.	-	-	-	-
Spring rye	-	-	09 July	02 Aug.	01 Aug.	02 Aug.	-	-	-	-
Spring triticale	-	-	09 July	02 Aug.	01 Aug.	02 Aug.	-	-	-	-
<u>Seeded/Established in Fall</u>										
<i>2011</i>										
Austrian winter pea	^B	^B	16 June ^{B,C}	08 July ^B	08 July ^B	27 June ^B	06 June ^{B,C}	07 June ^B	08 June ^B	08 June ^B
Austrian winter pea + winter rye	-	-	-	-	-	-	06 June	07 June	-	-
Winter barley	11 June	11 June	-	-	-	-	-	-	-	-
Fall check (no cover crop)	-	-	-	-	-	-	-	-	-	-
Fall mix	-	-	16 June ^C	08 July	08 July	27 June	-	-	-	-
Hairy vetch	11 June ^B	11 June ^B	16 June ^C	08 July	08 July	27 June	06 June ^B	07 June ^B	08 June	08 June
Winter rye	11 June	11 June	16 June ^C	08 July	08 July	27 June	06 June	07 June	08 June	08 June
Winter triticale	11 June	11 June ^B	16 June ^C	08 July	08 July	27 June	06 June	07 June	08 June	08 June

^ATilled plots were disked on 25 May and 17 June but wet weather delayed seeding until 12 July following a third disking operation in 2010, with 100% mortality occurring at the WI location in 2011.

^BExcessive winterkill was detected.

^CTilled plots were disked on 3 June and again 3 days later at the DREC-ND location, and on 02 June and again 4 days later at the NKRF-IA location in 2011.

Table 3. Corn seeding, inter-row cultivation, and silage and grain harvest dates in field experiments at the UW Arlington Agricultural Research Station (AARS-WI), Dickinson Research Extension Center (DREC-ND), ISU Neely-Kinyon Research Farm in IA (NKRF-IA), and the UM Southwest Research and Outreach Center (SWROC-MN).

Field Activity	Locations									
	AARS-WI		DREC-ND				NKRF-IA		SWROC-MN	
	M	RC	D	M	RC	U	D	RC	M	RC
-----2009-10-----										
<u>Seeding</u>										
SS	-	-	12 May	12 May	12 May	12 May	-	-	-	-
FS	28 May ^A	28 May ^A	28 June	28 June	30 June	30 June	12 July	12 July	07 June	07 June
<u>In-crop tillage</u>										
<i>First cultivation</i>										
SS	-	-	10 June	-	-	-	-	-	-	-
FS	-	-	-	-	-	-	27 July	-	-	-
<i>Second cultivation</i>										
SS	-	-	24 June	-	-	-	-	-	-	-
FS	-	-	-	-	-	-	12 Aug.	-	-	-
<u>Harvest</u>										
<i>Silage</i>										
SS	-	-	26 Oct.	12 Oct.	12 Oct.	12 Oct.	-	-	-	-
FS	01 Oct.	01 Oct.	12 Oct.	06 Oct.	06 Oct.	06 Oct.	30 Sep.	-	-	-
<i>Grain</i>										
SS	-	-	-	-	-	-	-	-	-	-
FS	-	-	-	-	-	-	-	-	01 Nov.	01 Nov.
-----2010-11-----										
<u>Seeding</u>										
SS	-	-	17 June	17 June	17 June	17 June	-	-	-	-
FS	8 June ^B	8 June ^B	17 June	12 July	12 July	12 July	07 June	07 June	08 June	08 June
<u>In-crop tillage</u>										
<i>First cultivation</i>										
SS	-	-	-	-	-	-	-	-	-	-
FS	-	-	-	-	-	-	29 June ^C	-	-	-
<i>Second cultivation</i>										
SS	-	-	-	-	-	-	-	-	-	-
FS	-	-	-	-	-	-	07 July ^D	-	-	-
<u>Harvest</u>										
<i>Silage</i>										
SS	-	-	26 Oct.	12 Oct.	12 Oct.	12 Oct.	-	-	-	-
FS	-	-	12 Oct.	06 Oct.	06 Oct.	06 Oct.	-	05 Oct.	-	-
<i>Grain</i>										
SS	-	-	-	-	-	-	-	-	-	-
FS	09 Nov.	09 Nov.	-	-	-	-	24 Oct.	-	21 Oct.	21 Oct.

^ASmall-grain cover crops were seeded on 28 May while legume cover crops were not seeded until 18 June; corn was reseeded in plots on 10 July because of extensive armyworm damage.

^BSoybean was seeded (8 June) in place of corn in 2011 at the AARS-WI location because of extensive armyworm damage to corn in 2010.

^CTilled plots were rotary hoed on 24 June, 5 days before row cultivation.

^DTilled plots were row cultivated a third time on 15 July.