

Fitting Cover Crops into Crop Rotations



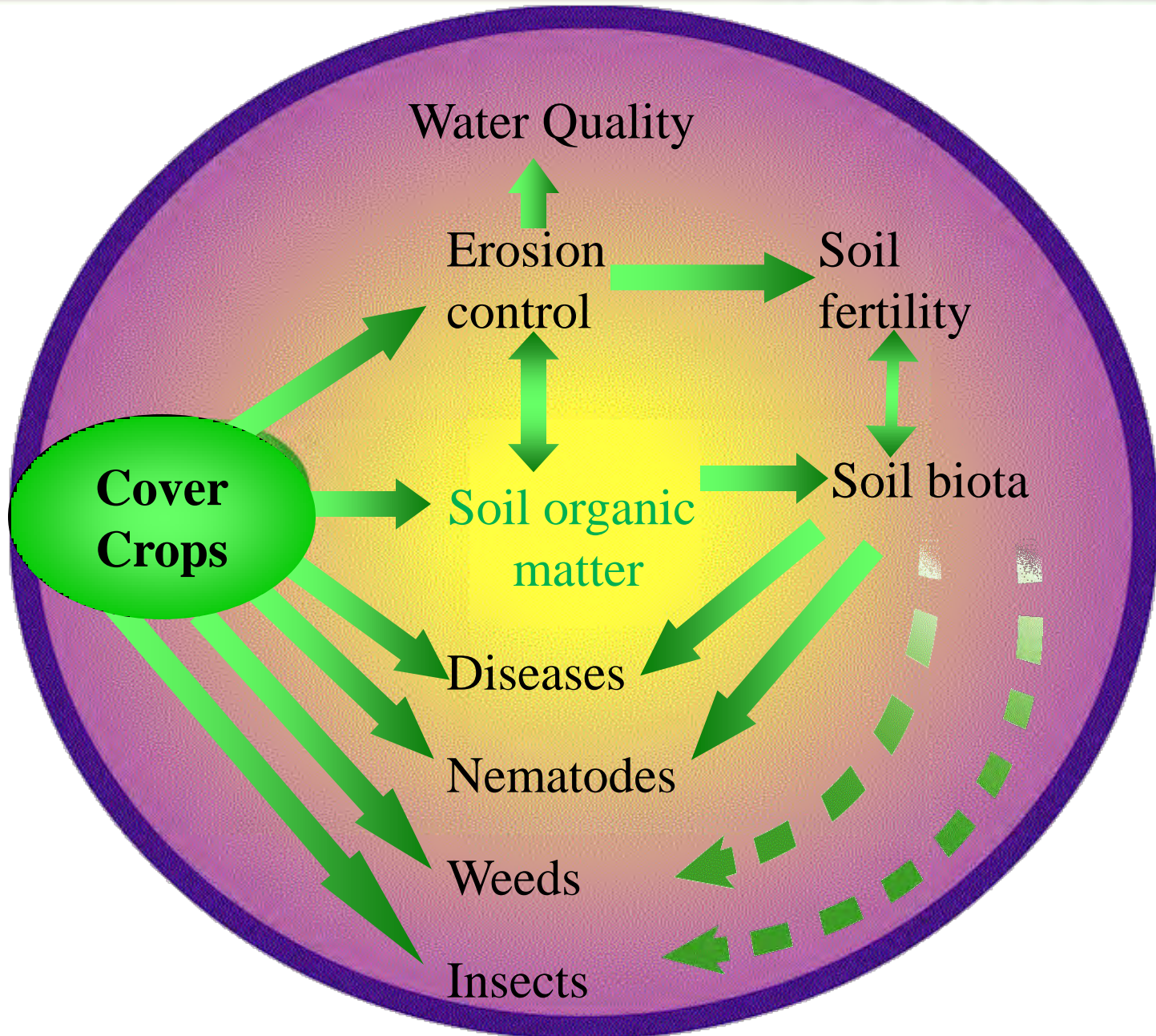
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Cover Crops

- Frost seeding
- Over seeding
- Broadcast
- Drill
- Aerial Seeding
- Manure Slurry Seeding

Frost seeding



Over seeding



Drill (no-till)



Broadcast



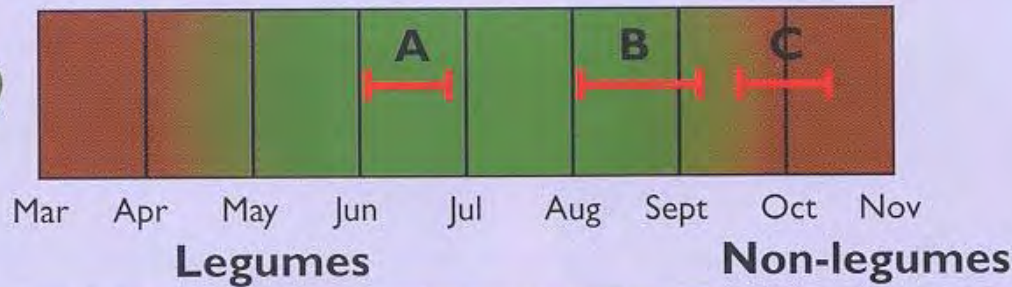
Aerial Seeding



Manure slurry seeding



Cover crop options for corn



A	Berseem clover	A[†], B[†]	Annual ryegrass
A, B	Crimson clover	C	Barley
A, B	Mammoth red clover	A, B	Buckwheat
A, B	Medium red clover	B	Oats
A, B	Sweet clover	B	Oilseed radish
A, B	White clover	B	Rape/Turnip
A, B	60/40 mix	C	Rye
A[†], B[†]	Hairy vetch	C	Triticale
A	Medic annual	C*	Wheat

A = Overseed corn at vegetative stages V4 - V8

B = Overseed corn by air or highboy

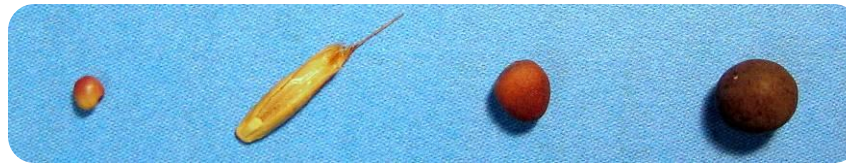
C = Overseed corn by air or highboy

***** = After Hessian fly-free date

† = Not recommended if being planted to wheat

4-way mix for weed control in corn

pg. 97



**MI mammoth
clover**



Annual ryegrass



Oilseed radish



Hairy vetch



Fall

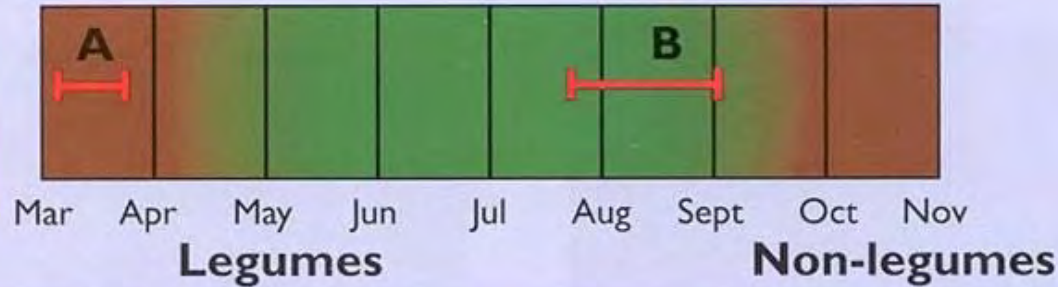
In the spring





Cocktail mix overseeded 2010
Spring 2011

Cover crop options for wheat



B	Berseem clover	B	Annual ryegrass
B	Crimson clover	B	Barley
A, B	Mammoth red clover	B	Buckwheat
A, B	Medium red clover	B	Oats
B	Sweet clover	B	Oilseed radish
B	White clover	B	Rape/Turnip
A, B	60/40 mix	B	Rye
B	Hairy vetch	NR	Triticale
B	Medic, annual	NR	Wheat

A = Frost seed

B = Seed after harvest

NR = Not recommended

Frost Seeded Red Clover Following Wheat Harvest





Why strip-till?

➤ Compared to No-till

- » Warms soil faster
- » More uniform seed bed
- » Improved seed to soil contact

➤ Compared to Conventional Till

- » Fewer field passes
- » Earlier field entrance
- » Retains residue



Why strip-till and dual cover crops?



Henry Miller's Farm



September 14, 2010

Why strip-till and dual cover crops?



Henry Miller's Farm



October 12, 2010

Corn Following Manure/Cover crops After Winter Wheat

2005

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Biosystems and Agricultural Engineering

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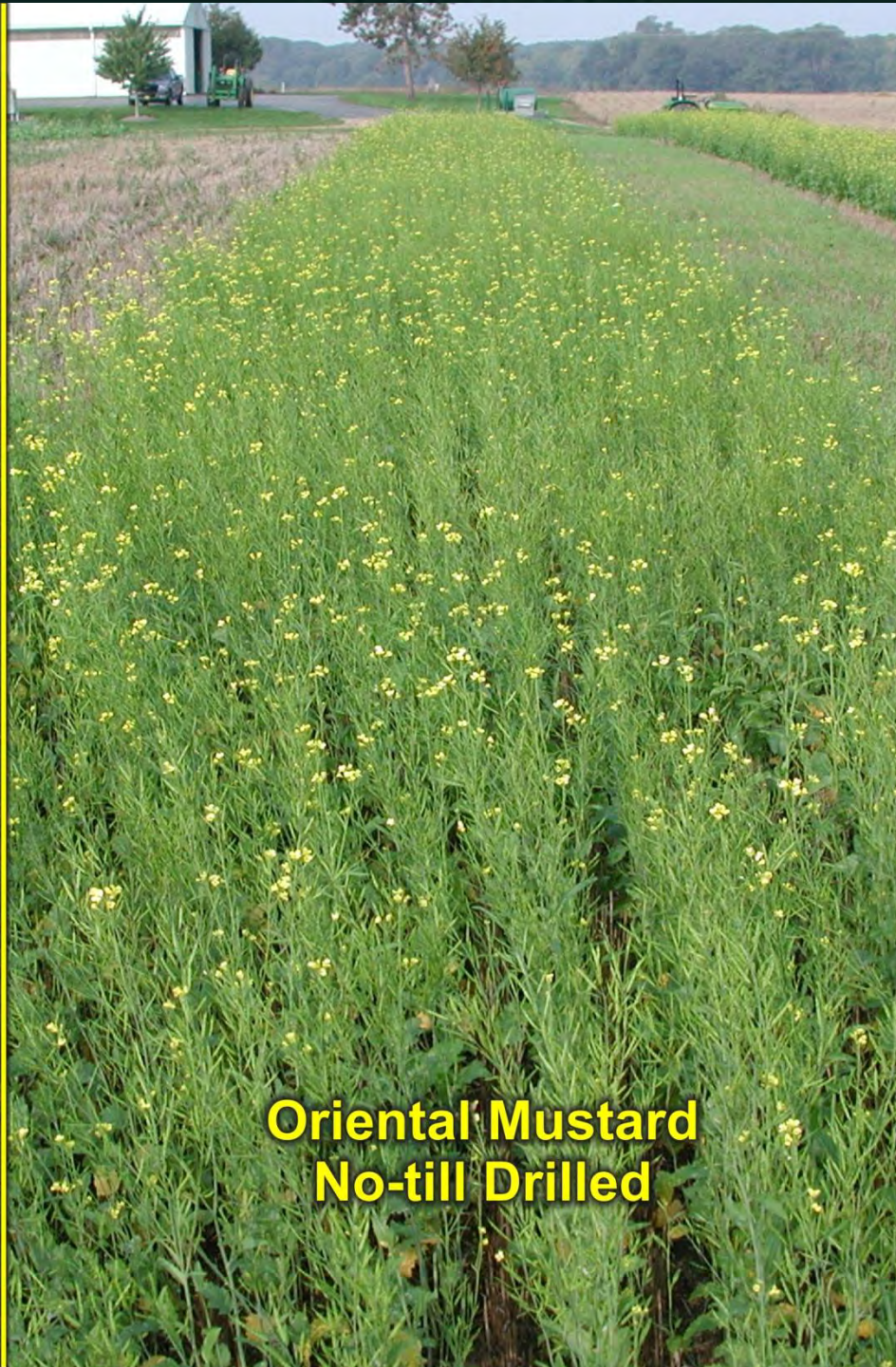
Manure slurry-enriched seeding of cover crops







**Oriental Mustard
Seeded With Manure**

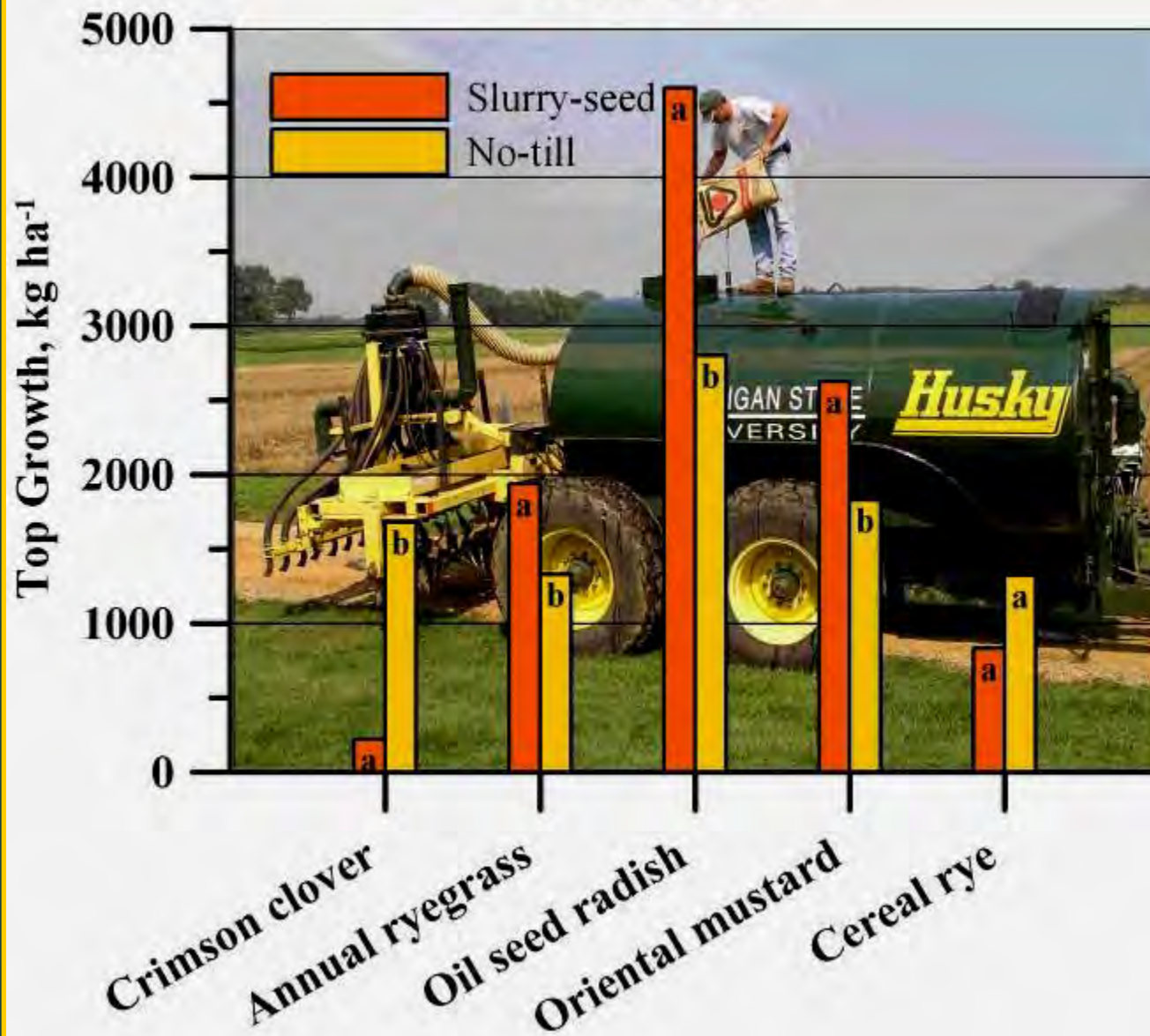


**Oriental Mustard
No-till Drilled**

Oriental Mustard



KBS 2005





Slurry seeding demonstration 10/27/10



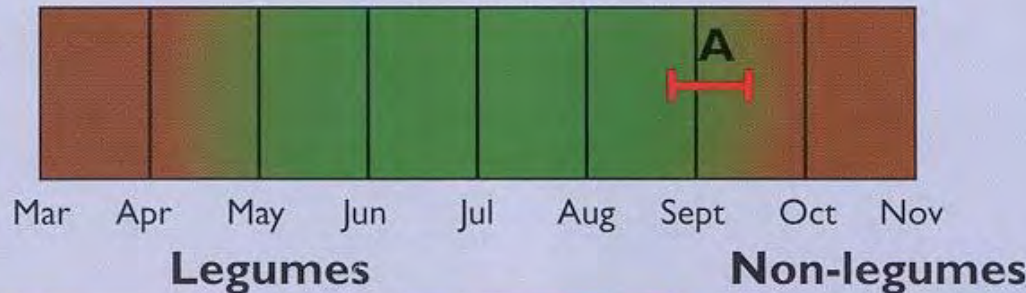
OATS +TURNIP

OILSEED RADISH

OATS + TURNIP

Slurry seeded cover crops

Cover crop options for soybeans



NR	Berseem clover	A[†]	Annual ryegrass
A	Crimson clover	A	Barley
A	Mammoth red clover	NR	Buckwheat
A	Medium red clover	A	Oats
A	Sweet clover	A	Oilseed radish
A	White clover	A	Rape/Turnip
A	60/40 mix	A	Rye
A[†]	Hairy vetch	A	Triticale
NR	Medic, annual	A*	Wheat

A = Overseeding at leaf drop

NR = Not recommended

[†] = Not recommended if being planted to wheat

* = After Hessian fly-free date

Broadcast Seeding Annual Ryegrass Into Soybeans

Cass county Michigan
2009

Annual Ryegrass

Ryegrass varieties	Planting rate	Planting dates
Gulf	25 lb/A	Aug. 4
King		Aug. 25
		Sept. 3



Annual Ryegrass

Ryegrass variety	Planting date	Number per ft ²	Height inches
	Aug. 4	62	6.3
Gulf	Aug. 25	40	6.0
	Sept. 3	50	5.5
	Aug. 4	58	6.2
King	Aug. 25	63	5.8
	Sept. 3	49	4.8

Thanks!

