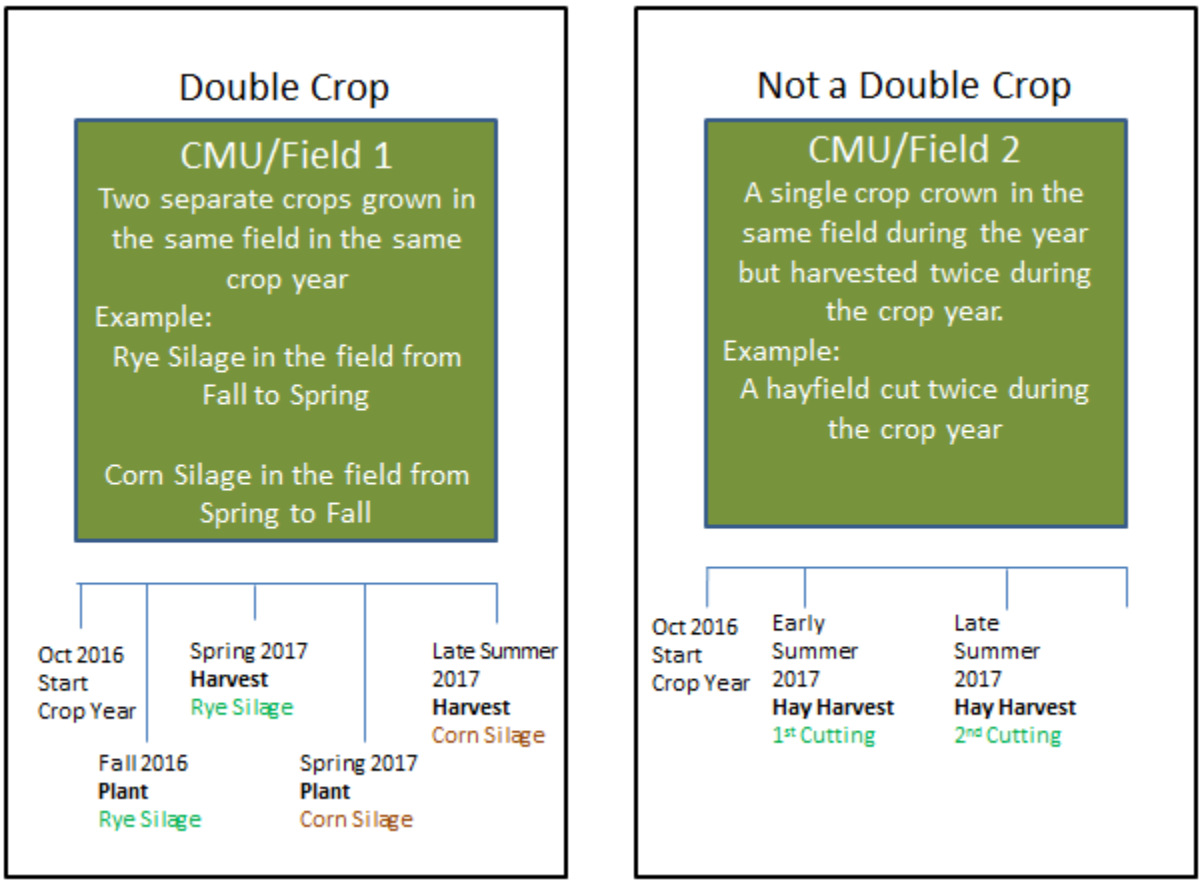
How to Complete Double Crops

Purpose:

This procedure describes how to complete a Double Crop in Appendix 4 Input. If you have not yet completed a field in Appendix 4 Input and need help then please refer to the guidance document: How to Complete Appendix 4 Input worksheet.

A double crop is described as growing two separate and distinct crops on a field during a crop year. Different crops on the same field during a crop year. They are designated as a "Winter Crop" and a "Summer Crop" in a double crop.

One example would be a field where small grain silage is followed by corn silage in the same crop year. Small grain silage, ("Winter Crop"), is planted in the fall at the beginning of the crop year and is harvested in the spring. Corn for Silage, ("Summer Crop"), is then planted in the spring in the same field and during the same crop year.



Another example would be a field of Alfalfa that will have a cutting taken off in the spring then corn is planted in the same field after the 1st cutting of alfalfa. They are two different crops grown in the same field and during the same crop year.

In the example below, a field will be planted in small grain silage in the fall and harvested in the spring. Corn for silage will then be planted on the same field after harvesting the small grain silage.

The small grain silage is the winter crop in a double crop.
The corn for silage is the summer crop in a double crop.

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The two points below are critical to make the calculations work properly:

- **When planning a double crop, <u>the winter crop must be entered before the summer crop in Appendix 4 Input for the calculations to work properly.</u>**

- **<u>The field Ids must be the same for both instances of the field</u>**

  If you need a separator in a field name you can use an underscore instead of a dash.
  For example: SF_1

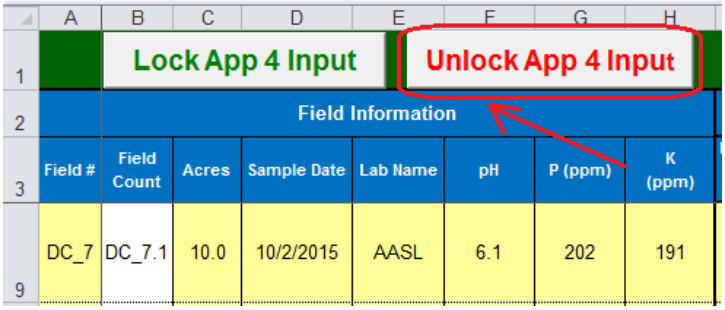
Enter the field and information for the Winter Crop like any other field in Appendix 4 Input. After entering the information, copy and paste the winter crop field that will become the Summer Crop.

The example will begin by showing you how to copy and paste the winter crop row. It will show you the cells to change to complete a summer crop. Finally it will demonstrate how the double crop should appear when completed properly.

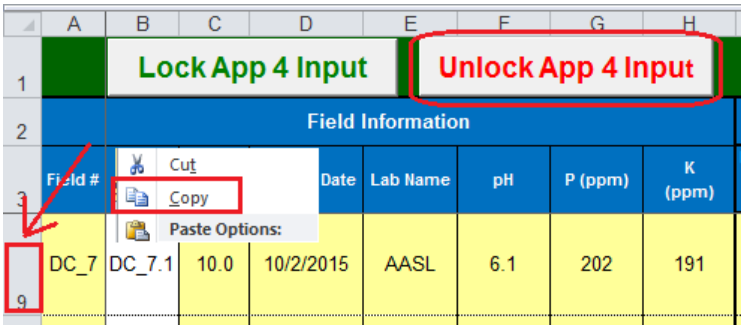
1. Procedure

1.1 Copy and paste the field that will be a double crop:

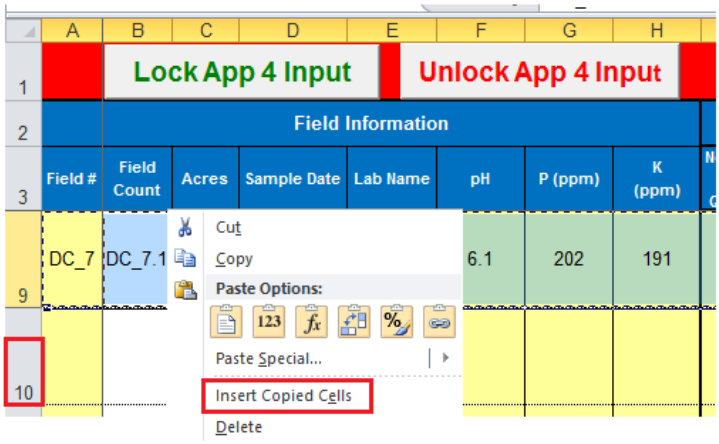
1.1.1 Unlock the App 4 Input spreadsheet by clicking on the "Unlock App 4" Input: button. When the spreadsheet is unlocked the top row of the spreadsheet will change to red. This will allow you to copy paste the existing field information with re-entering everything.



1.1.2 Select the winter crop field you want to copy and paste for the summer crop by using a "right mouse click" ***on the row number next to the Field Id*** and select copy in the pop-up box. The entire row will be shaded.

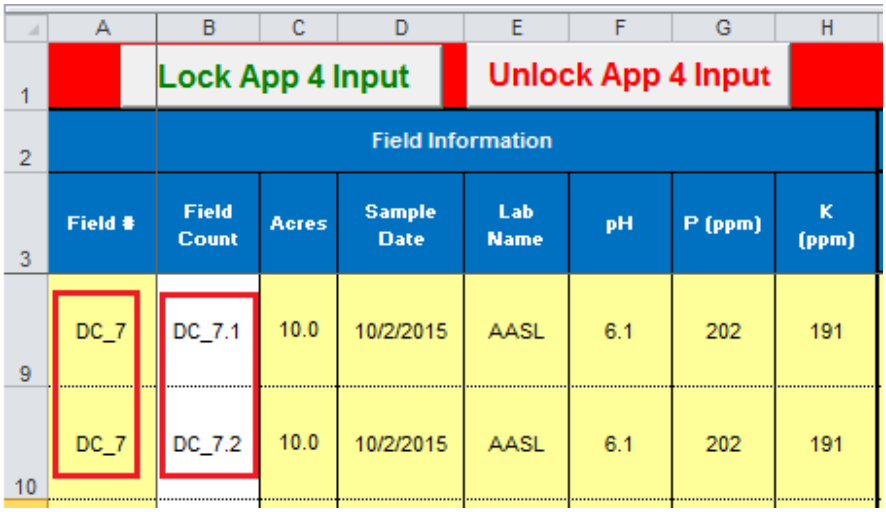


1.1.3 Right mouse click then select "Insert Copied Cells" on the row number where you want to insert the field. In the example the copied field will be inserted in row 10 and slide all fields below it down one row.

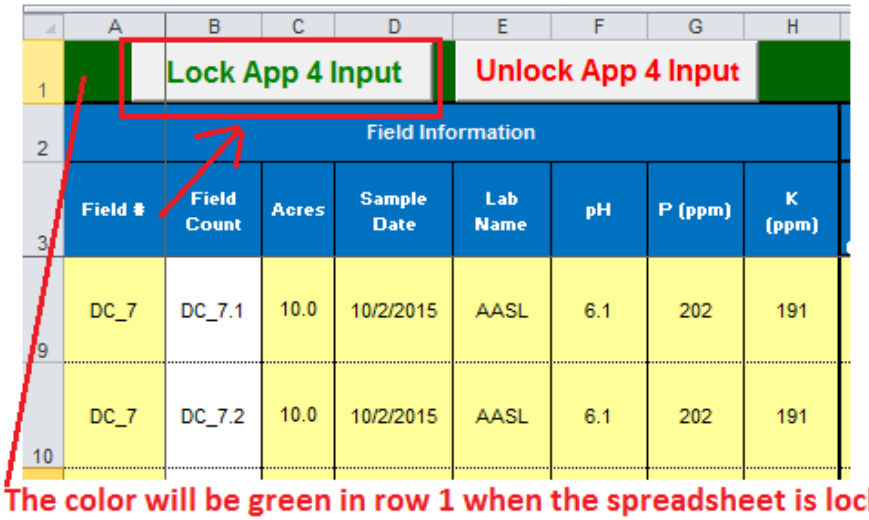


The Field ID must be identical for both instances of a field for the double crop calculations to work properly.

The "Field Count" column must indicate the field name with a .2. This means they are recognized as the same field. It indicates it is the 2nd instance of the field, and will appropriately assign the double crop nitrogen carryover and report the field acres only once in the Total acres reported in the NMP Summary.



1.1.4 Click on the lock button to lock the spreadsheet. It will be locked when the top row changes from red to green.



	A	B	C	D	E	F	G	H
1		Lock App 4 Input			Unlock App 4 Input			
2		Field Information						
3	Field #	Field Count	Acres	Sample Date	Lab Name	pH	P (ppm)	K (ppm)
9	DC_7	DC_7.1	10.0	10/2/2015	AASL	6.1	202	191
10	DC_7	DC_7.2	10.0	10/2/2015	AASL	6.1	202	191

The color will be green in row 1 when the spreadsheet is locked

1.2 Complete the Crop Information Section

1.2.1 Crop – Select the crop from the dropdown list, in our example Small Grain Silage is the Winter Crop and Corn for Silage is the Summer Crop.

1.2.2 <u>Double Crop Selection</u> – This selection is key to having a double crop scenario work properly. Select the appropriate double crop designation from the dropdown list. Choose either "Winter crop in a double crop" or "Summer crop in a double crop" from the dropdown list. <u>Remember a winter crop always needs to be completed first before a summer crop in a double crop scenario</u>.

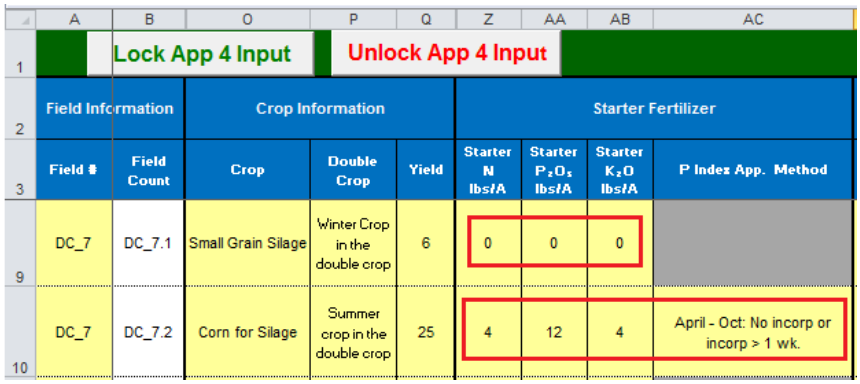
1.2.3 Yield – Enter the expected crop yield. After you select the crop and yield the worksheet will assign the appropriate crop units and PSU soil test recommendations. (User recommendations similar to PSU recommendations can be used too.)

	A	B	O	P	Q	R	S	T	U
1		Lock App 4 Input		Unlock App 4 Input					
2	Field Information		Crop Information				PSU Recommendations		
3	Field #	Field Count	Crop	Double Crop	Yield	Units	PSU N lbs/A	PSU P_2O_5 lbs/A	PSU K_2O lbs/A
9	DC_7	DC_7.1	Small Grain Silage	Winter Crop in the double crop	6	ton/A	90	0	0
10	DC_7	DC_7.2	Corn for Silage	Summer crop in the double crop	25	ton/A	200	0	0

1.3 Update the starter or other fertilizer information.

1.3.1 Starter Fertilizer - When completing a double crop, any starter or other fertilizer needs to be entered for each crop grown during the crop year. If no starter or other fertilizer is used then enter zeros for the starter fertilizer.

1.3.2 Starter P Index Application Method - If starter Phosphorous is used and the field is a P Index Part B field then the P Index Application Method will need to be completed.



	A	B	O	P	Q	Z	AA	AB	AC
1		Lock App 4 Input		Unlock App 4 Input					
2	Field Information		Crop Information			Starter Fertilizer			
3	Field #	Field Count	Crop	Double Crop	Yield	Starter N lbs/A	Starter P_2O_5 lbs/A	Starter K_2O lbs/A	P Index App. Method
9	DC_7	DC_7.1	Small Grain Silage	Winter Crop in the double crop	6	0	0	0	
10	DC_7	DC_7.2	Corn for Silage	Summer crop in the double crop	25	4	12	4	April - Oct: No incorp or incorp > 1 wk.

1.4 Complete the Field Residual and Carryover Nitrogen History

1.4.1 Residual Manure N

Select the appropriate Residual Manure Nitrogen history. It's important to select the history that ends with the appropriate "Winter Double Crop or "Summer Double Crop" designation.

1.4.2 Carryover Legume N

Legume nitrogen is only credited to summer annual crops.

The cell will be yellow if the crop is a summer annual.

The cell will be shaded light green if the crop IS NOT a summer annual. Legume crops do not receive a carryover legume N credit.

Winter Crop in a double crop: Select "Legume Residual N Credited to Summer Crop" or leave it blank.

Summer Crop in a double crop: Select to appropriate previous legume field history.

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	A	B	O	P	Q	AD	AE
1		Lock App 4 Input		Unlock App 4 Input			
2	Field Information		Crop Information			Field Residual and Carryover Nitrogen History	
3	Field #	Field Count	Crop	Double Crop	Yield	Residual Manure N	Carryover Legume N
9	DC_7	DC_7.1	Small Grain Silage	Winter Crop in the double crop	6	Frequently - Winter Double Crop	Legume Residual N Credited to Summer Crop
10	DC_7	DC_7.2	Corn for Silage	Summer crop in the double crop	25	Frequently - Summer Double Crop	Soybeans, 30 bu/A

The carryover Legume N is always credited to the summer crop.

1.5 Complete the Manure and Application Information for the Winter and Summer Crop

1.5.1 Select the Manure group, Application Season, and Application Management for the Winter Crop and Summer Crop

1.5.2 Multiple applications can be completed on double crops.

	A	B	O	P	AF	AG	AH	AI	AJ
1		Lock App 4 Input		Unlock App 4 Input					
2	Field Information		Crop Information		Manure and Application				
3	Field #	Field Count	Crop	Double Crop	Manure Group	Planned Application Season	Planned Application Management	P Index Application Method	Multiple/ Split Application
9	DC_7	DC_7.1	Small Grain Silage	Winter Crop in the double crop	Cow Spring Liquid	Winter	Winter: Spring use by grass or small grains	Nov - Mar: No incorp or incorp > 1 wk.	
10	DC_7	DC_7.2	Corn for Silage	Summer crop in the double crop	Heifer Bedded Pack	Spring	Spring: Incorporated after 7 days or none	April - Oct: No incorp or incorp > 1 wk.	

1.6 Manure Rate - Nitrogen Balanced Rate, Crop Phosphorous Removal Manure Rate, and Planned Manure Rate

1.6.1 **Nitrogen Balanced Rate** – This is the amount manure that would be needed to meet the crops Nitrogen needs. (White cells =no data entry)

1.6.2 **Crop Phosphorous Removal Manure Rate** – This is the amount of manure that will replace the P removed from the field by the crops accounting for all other P applied (White cells =no data entry)

1.6.3 **Planned Manure Rate** – Enter the planned manure rate. If no manure is to be applied than enter a Zero and "No Manure Applied" will display in the NMP Summary for the field Planned Manure Rate

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	A	B	O	P	AF	AG	AK	AL	AM
1		Lock App 4 Input		Unlock App 4 Input			Manure Group & Manure Balance		
2	Field Information		Crop Information		Manure and Application		Manure Rate		
3	Field #	Field Count	Crop	Double Crop	Manure Group	Planned Application Season	Nitrogen Balanced Manure Rate	Crop Phosphorous Removal Manure Rate	Planned Manure Rate
9	DC_7	DC_7.1	Small Grain Silage	Winter Crop in the double crop	Cow Spring Liquid	Winter	6803	8125	6000
10	DC_7	DC_7.2	Corn for Silage	Summer crop in the double crop	Heifer Bedded Pack	Spring	48.3	3.6	10

1.7 Balance After Manure, Supplemental Fertilizer, and Final Nutrient Balance

1.7.1 Balance after Manure – Both the Summer Crop and Winter Crop will have a balance after manure listed because they are separate crops.

This is the nutrient balance after manure. A positive number indicates additional nutrients are required. A negative number indicates an excess nutrient balance. (White cells =no data entry).

1.7.2 Supplemental Fertilizer – Both the Summer Crop and Winter Crop will have a supplemental balance after manure listed because they are separate crops.

Enter any supplemental fertilizer values here. <u>If there is no supplemental fertilizer applied enter a zero "0" in each of the cells or the spreadsheet won't calculate properly when working on a plan that's been transferred from a Version 4.x plan.</u>

1.7.3 Final Nutrient Balance – The final nutrient balances for N, P_2O_5, and K_20 are calculated values. (White cells =no data entry). The "Final N Balance" can never be negative.

	A	B	O	P	Q	R	AN	AO	AP	AQ	AR	AS	AV	AW	AX
1		Lock App 4 Input		Unlock App 4 Input						Manure Group &					
2	Field Information		Crop Information				Balance after Manure			Supplemental Fertilizer			Final Nutrient Balance		
3	Field #	Field Count	Crop	Double Crop	Yield	Units	N Balance	P2O5 Balance	K2O Balance	Suppl. N	Suppl. P2O5	Suppl. K2O	Final N Balance	Final P2O5 Balance	Final K2O Balance
9	DC_7	DC_7.1	Small Grain Silage	Winter Crop in the double crop	6	ton/A	10	-96	-128	10	0	0	0	-96	-128
10	DC_7	DC_7.2	Corn for Silage	Summer crop in the double crop	25	ton/A	92	-202	-192	92	0	0	0	-202	-192

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1.8 **P Index Transport Factors –** The transport factors only need to be entered in the first instance of a field. It doesn't matter if they are in the other instances of a field**.**

Complete the P index transport factors. The soil loss is a typed entry. The others transport factors have a note to remind you of the selections and are drop down box selections or you can enter them by typing the number. Transport factors can be copied and pasted from other fields as well.

	A	B	O	P	Q	R	AY	AZ	BA	BB	BC	BD	BE	BF
1		Lock App 4 Input		Unlock App 4 Input										
2	Field Information		Crop Information				P Index Transport Factors							
3	Field #	Field Count	Crop	Double Crop	Yield	Units	P Index Part A	No P Applied X	Soil Loss (ton/Ac)	Runoff Potential	Subsurface Drainage	Contributing Distance	Modified Connectivity	P Index Value
9	DC_7	DC_7.1	Small Grain Silage	Winter Crop in the double crop	6	ton/A	Part B		2	2	0	2	1	70
10	DC_7	DC_7.2	Corn for Silage	Summer crop in the double crop	25	ton/A	Part B							70

Multiple Applications on Double Crops and the P Index - The transport factors for a P Index Part B field must be in in the first instance of a field. It doesn't matter if they are in the middle or final multiple applications.

<u>Remember that a P Index Part B field can have a maximum of six instances of a field in order to properly calculate a P Index score.</u>

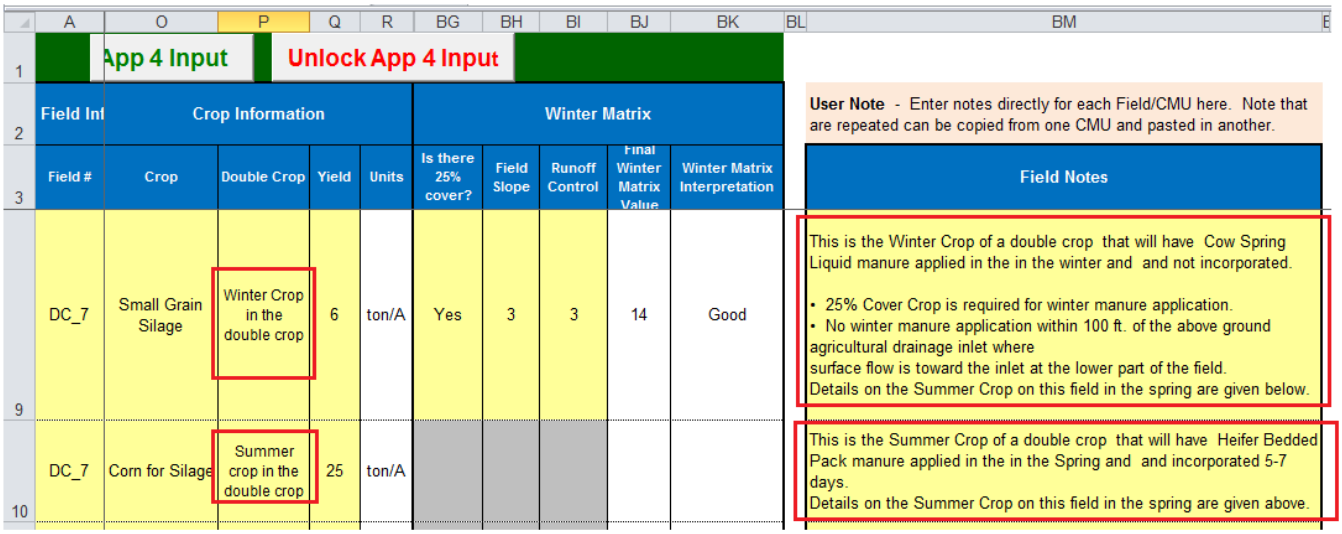
For Example, you could have a double crop with 3 multiple manure applications on the Winter Crop and 3 multiple manure applications on the Summer Crop. Or you could have a double crop with 1 manure application on the Winter Crop and 5 multiple manure applications on the Summer Crop. You can have any combination just no more than six instances of a field for the P Index to work properly.

1.9 **Double Crops on a field evaluated in the Winter Matrix –** The Winter Matrix Evaluation factors must be entered in the Double Crop containing the Planned Application Season of "Winter" or "Winter 1.2-15".

	A	B	O	P	Q	R	AF	AG	AH	BG	BH	BI	BJ	BK
1		Lock App 4 Input		Unlock App 4 Input										
2	Field Information		Crop Information				Manure and Application			Winter Matrix				
3	Field #	Field Count	Crop	Double Crop	Yield	Units	Manure Group	Planned Application Season	Planned Application Management	Is there 25% cover?	Field Slope	Runoff Control	Final Winter Matrix Value	Winter Matrix Interpretation
9	DC_7	DC_7.1	Small Grain Silage	Winter Crop in the double crop	6	ton/A	Cow Spring Liquid	Winter	Winter: Spring use by grass or small grains	Yes	3	3	14	Good
10	DC_7	DC_7.2	Corn for Silage	Summer crop in the double crop	25	ton/A	Heifer Bedded Pack	Spring	Spring: Incorporated after 7 days or none					

1.10 Add any field notes as applicable.

While it is not required, it is a recommended that notes be added to each double crop explaining what is planned to the operator. Suggested application notes are included in the Field Notes screenshot below. You can increase the row width if needed.



	A	O	P	Q	R	BG	BH	BI	BJ	BK	BL	BM
1		App 4 Input		Unlock App 4 Input								
2	Field Inf	Crop Information				Winter Matrix						User Note - Enter notes directly for each Field/CMU here. Note that are repeated can be copied from one CMU and pasted in another.
3	Field #	Crop	Double Crop	Yield	Units	Is there 25% cover?	Field Slope	Runoff Control	Final Winter Matrix Value	Winter Matrix Interpretation		Field Notes
9	DC_7	Small Grain Silage	Winter Crop in the double crop	6	ton/A	Yes	3	3	14	Good		This is the Winter Crop of a double crop that will have Cow Spring Liquid manure applied in the in the winter and and not incorporated. • 25% Cover Crop is required for winter manure application. • No winter manure application within 100 ft. of the above ground agricultural drainage inlet where surface flow is toward the inlet at the lower part of the field. Details on the Summer Crop on this field in the spring are given below.
10	DC_7	Corn for Silage	Summer crop in the double crop	25	ton/A							This is the Summer Crop of a double crop that will have Heifer Bedded Pack manure applied in the in the Spring and and incorporated 5-7 days. Details on the Summer Crop on this field in the spring are given above.

2. Notes

2.1. How the Double Crop appears in the NMP Summary

Operation Acres:
Total Acres: _____ **Total Acres Available For Nutrient Application Under Operator's Control: Owned:** _____ **Rented:** _____

Animal Equivalent Units: 158.11 **Animal Equivalent Units Per Acre:** 158.11

								Starter/Other Fertilizer (lb/A)			Supplemental Fertilizer (lb/A)			Nutrient Balance (lb/A)[2]		
CMU/Field ID	Acres	Crop	Manure Group	Application Season	Application Management	Planned Manure Rate[1]		N	P_2O_5	K_2O	N	P_2O_5	K_2O	N	P_2O_5	K_2O
DC_7	10	Small Grain Silage	Cow Spring Liquid	Winter	Winter: Spring use by grass or small grains	6000	gal/A	0	0	0	10	0	0	0	-96	-128
DC_7	10	Corn for Silage	Heifer Bedded Pack	Spring	Spring: Incorporated after 7 days or none	10	tons/A	4	12	4	92	0	0	0	-202	-192

2.2. How the Double Crop appears in the NMP Summary Notes

NMP Summary Notes

Crop Years 2017

CMU/Field ID	Notes
DC_7	This is the Winter Crop of a double crop that will have Cow Spring Liquid manure applied in the in the winter and and not incorporated. • 25% Cover Crop is required for winter manure application. • No winter manure application within 100 ft. of the above ground agricultural drainage inlet where surface flow is toward the inlet at the lower part of the field. Details on the Summer Crop on this field in the spring are given below.
DC_7	This is the Summer Crop of a double crop that will have Heifer Bedded Pack manure applied in the in the Spring and and incorporated 5-7 days. Details on the Summer Crop on this field in the spring are given above.

2.3. How the Double Crop appears in Appendix 4 Crop & Manure Management Section

How to Complete Double Crops

App. 4: Crop Yrs. 2017	DC_7			DC_7			
CMU/Field ID							
Acres	10.0			10.0			
Soil Test Report Date	October 2, 2015			October 2, 2015			
Laboratory Name	AASL			AASL			
Soil Test Levels (Mehlich-3 P & K)	ppm P	ppm K	pH	ppm P	ppm K	pH	
(Show conversions to ppm in Appendix 10)	202	191	6.1	202	191	6.1	
P Index Part A Evaluation	Winter Soil Test P			Soil Test P			If a manure application season of "Winter" or "Winter 1.2-15" is selected then "Winter" will be added to the Part A evaluation result for the crop receiving the winter application of manure.
Part A Result	Part B			Part B			
Crop	Small Grain Silage			Corn for Silage			Different Crops
Planned Yield	6 ton/A			25 ton/A			
PSU Soil Test Recommendation (lb/A)	N	P2O5	K2O	N	P2O5	K2O	
	90	0	0	200	0	0	Double crops have different crop reccomendations
User Soil Test Recommendation (lb/A)							
Other Nutrients Applied (lb/A) (Nutrients applied regardless of manure)	0	0	0	4	12	4	Other Nutrients applied will be different. Can have Other Nutrients Applied for both Winter and Summer Crops
P Index Application Method				April - Oct: No incorp or incorp > 1 wk.			
Double Crop CarryOver N (lb/A)	[37]	Winter Double Crop		37	Summer Double Crop		**The N carryover from the Winter Crop to the Summer Crop is listed in Brackets.** It is 20% of the Total N in the manure applied. Cow Spring Liquid has 30.5 lbs N/1000 gal. X 6(1000 gals) X 20% = 36.6 rounded to 37lbs N
Manure History Description Residual Manure N (lb/A)	7	Frequently - Winter Double Crop		13	Frequently - Summer Double Crop		Comes from Table 5.2 Historical Frequency of Manure Application
Legume History Description Residual Legume N (lb/A)	0	Legume Residual N Credited to Summer Crop		30	Soybeans, 30 bu/A		Residual Legume N History is to be credited to the Summer Crop in a Double Crop
Net Nutrients Required (lb/A)	83	0	0	116	-108	-132	The Net Nutrients Required for P2O5 and K2O for the Summer Crop include the winter crop deficit / excess. **P2O5 Net Nutrients Required** for the Summer crop = 0 lbs. PSU Recs + 96 lbs. excess from Small Grain Silage + 12bs. Other Nutrients Applied = 108 lbs P2O5 excess **K2O Net Nutrients** Required for the Summer crop = 0 lbs. PSU Recs + 128 lbs. excess from Small Grain Silage + 4bs. Other Nutrients Applied = 132 lbs K2O excess
Manure Group	Cow Spring Liquid			Heifer Bedded Pack			The manure groups applied to each crop.
Application Season: Management (Incorporation, cover crops, etc.)	Winter: Spring use by grass or small grains			Spring: Incorporated after 7 days or none			
Availability Factors (Total N or NH4-N & Organic N)	Total N	NH4-N	Org. N	Total N	NH4-N	Org. N	
	0.40			0.20			
P Index Application Method	Nov - Mar: No incorp or incorp > 1 wk.			April - Oct: No incorp or incorp > 1 wk.			
N Balanced Manure Rate (ton; gal/A)	6,803 gal/A			48 tons/A			
P Removal Balance Manure Rate (ton or gal/A; If required by P Index)	8,125 gal/A			4 tons/A			
	Crop P Removal (lb/A) 130.0			Crop P Removal (lb/A) 34.0			
P Index Value	70			70			
Planned Manure Rate (ton or gal/A)	6,000 gal/A			10 tons/A			A double crop can have "No Manure Applied" for either of the crops too.
Nutrients Applied at Planned Manure Rate (lb/A)	73	96	128	24	94	60	
Nutrient Balance after Manure	10	-96	-128	92	-202	-192	
Supplemental Fertilizer (lb/A)	10	0	0	92	0	0	
P Index Application Method							
Final Nutrient Balance (lb/A)	**0**	**-96**	**-128**	**0**	**-202**	**-192**	Excess Nitrogen can't be applied in excess of the Winter Crops needs and used for the Summer Crop. The Double Crop N carryover is the only N applied to the Winter Crop that is credited to the Summer Crop.
Multiple Application							
Manure Utilized on CMU	60,000 gallons			100 tons			

How to Complete Double Crops

2.4. How the Double Crop appears in Appendix P Index

Appendix 5 - P Index

Crop Yrs. 2017

Pennsylvania P Index Version 2

Explanation of P Index Results and possible Errors

P Index Rating: Values	Nutrient Applicat
Low: 59 or less	Nitrogen based n
Medium: 60 to 79	Nitrogen based n
High: 80 to 99	Phosphorus limit
Very High: 100 or greate	No Phosphorus a

	PART A: SCREENING TOOL					CMU/Field ID	DC_7	The field will be automatically be entered in the P Index if the answer is Yes to any of the Part B questions in Appendix 4 Input.
	Is the CMU in a Special Protection watershed?					If the answer is Yes to any of these questions, Part B must be used.	No	In a Double Crop the Field Id, Part A questions, and Mechlich 3 Soil Test P apply to the field so they are listed just once.
	Is there a significant farm management change as defined by Act 38?						No	
	Is the Soil Test Mehlich 3 P greater than 200 ppm P? (select soil test value in ppm P)						202	
	Is the Contributing Distance from this CMU to a receiving water less than 150 ft.?						No	
	Is winter manure application planned for this field ?						Yes	
	Run P Index Part B voluntarily? (Answers are No to all Pa						No	
PART B: SOURCE FACTORS SOIL TEST	Mehlich 3 Soil Test P (ppm P)						202	
	Soil Test Rating = 0.20* Mehlich 3 Soil Test P (ppm P)						40	
FERTILIZER P APPLIED REGARDLESS OF MANURE (Starter or other)	Fertilizer P (lb P2O5/acre)						0, 12	The fertilizer and application methods are displayed separately and separated by a comma for the Winter Crop and Summer Crop.
P INDEX APPLICATION METHOD OF FERTILIZER P APPLIED REGARDLESS OF MANURE[3]	0.2 Placed or injected 2" or more deep	0.4 Incor porat ed <1	0.6 Incorporated > 1 week or not incorporated	0.8 Incorporated >1 week or not incorporated following	1.0 Surface applied to frozen or snow covered soil		-, 0.2	Any Multiple Manure Applications on the double crop will be displayed separately as well.
SUPPLEMENTAL P FERTILIZER	Fertilizer P (lb P2O5/acre)						0, 0	A dash or hyphen is a placeholder and that means a particular criteria was not applied. For Example if "Fertilizer P Applied" is zero, then the application method will have a hyphen.
P INDEX APPLICATION METHOD OF SUPPLEMENTAL P FERTILIZER[3]	0.2 Placed or injected 2" or more deep	0.4 Incor porat	0.6 Incorporated > 1 week or not	0.8 Incorporated >1 week or not incorporated	1.0 Surface applied to frozen or snow covered		-, -	Error Note: if there is a fertilizer rate and there is no corresponding method factor then an "E" will be displayed.
	Fertilizer Rating = Fertilizer Rate x Fertilizer Application Method						2	The Rating for each fertilizer application is calculated separately and rounded to the nearest whole number then added together. Error Note: "Check Fert" will appear if the Starter Fertilizer P application method is missing.
MANURE P RATE	Manure P (lb P2O5/acre)						96, 94	The Manure P rate, Application Method, and PSC from each manure application is listed separately and separated by a comma.
MANURE APPLICATION METHOD[3]	0.2 Placed or injected 2" or more deep	0.4 Incorp orated <1 week followi	0.6 Incorporated > 1 week or not incorporated	0.8 Incorporated >1 week or not incorporated following	1.0 Surface applied to frozen or snow covered soil		0.8, 0.6	A dash or hyphen is a placeholder and means that a particular criteria was not applied. For Example if "Manure P Rate" is zero is then the application method will have a dash or hyphen..
P SOURCE COEFFICIENT[3]	r to: Test results for P Source Coefficient OR Book values from P Index Fact Sheet Ta						0.61, 0.8	Error Note: If there is a manure rate and there is no corresponding application method or PSC, it will display an "E".
	Manure Rating = Manure Rate x Manure Application Method x P Source Coefficient (Winter Crop / Summer Crop)						92	The Rating for each manure application is calculated separately and rounded to the nearest whole number. The Manure Rating for each manure application is then added together. Error Note: Check Manure will appear if the any of the following criteria are missing; manure rate, application method, or PSC value.
					Source Factor Sum		135	Soil Test Rating + Fertilizer Rating + Manure Rating
PART B: TRANSPORT FACTO EROSION	Soil Loss (ton/acre/yr)						2	In a Double Crop the Part B Transport Factors apply to the field so they are listed just once.
RUNOFF POTENTIAL	0 *Drainage Class is* Excessively	2 *Drain age Class*	4 *Drainage Class is* Well/Moderat	6 *Drainage Class is* Somewhat	8 *Drainage Class is* Poorly/Very		2	
SUBSURFACE DRAINAGE	0 None		1 Random		2 [1] Patterned		0	
CONTRIBUTING DISTANCE	0 > 500 ft.	2 350 to 500 ft.	4 200 to 349 ft.	6 100 to 199 ft. OR < 100 ft. with	9 [2] < 100 ft.		2	
Transport Sum = Erosion + Runoff Potential + Subsurface Drainage + Contributing Distance							6	
MODIFIED CONNECTIVITY	0.85 50 ft. Riparian Buffer APPLIES TO DIST < 100 FT		1.0 Grassed Waterway or None		1.1 Direct Connection APPLIES TO DIST > 100 FT		1.0	In a Double Crop the Modified Connectivity applies to the field so they are listed just once.
					Transport Sum x Modified Connectivity / 24		0.25	
					P Index Value = 2 x Source x Transport		67	A P Index Score will be displayed when all required information is complete. "PI Incomplete" will appear if a value needed is missing. Look in the columns above for errors.

[1] OR rapidly permeable soil near a stream

[2] "9" factor does not apply to fields receiving manu

[3] Error Note: if there is a manure or fertilizer rate and there is no corresponding method factor or PSC, it w

2.5. How the Double Crop appears in the Winter Manure Application Matrix

PA Technical Manual Supplement 10: Winter Manure Application Matrix

Crop Years 2017

User Notes for the Winter Manure Application Matrix

1. Under Act 38, any one of the following conditions meets the "winter" definition - see §83.201.
   - December 15 to February 28
   - Frozen ground (4 inch depth)
   - Snow-covered ground
2. All setbacks including those specific to winter manure application must be followed - see §83.294 (f) and (g).
   - No winter manure application within 100 ft. of an above ground agricultural drainage inlet where surface flow is toward the inlet.
   - No winter manure application within 100 ft. of a wetland (identified on National Wetland Inventory Maps) within the 100 year floodplain of an Exceptional Value stream segment if surface flow is toward the wetland.
3. Fields receiving winter manure applications must have 25% cover or an established cover crop - see §83.294 (g).

A field will only appear in the Winter Application Matrix if Winter or Winter 1.2-15 is selected as the Manure application season in App 4 Input

Verify the CMU meets the required cover conditions described in User Note 3.

CMU/Field ID	DC_7
Does the CMU have 25% cover or an established cover crop?	Yes

	Evaluation Criteria Descriptions and Ranking Values				
	4	3	2[b]	1[c]	DC_7
Field Slope	< 4 %	4 - 8%	9 - 15%	> 15%	3
Distance from Water Bodies[a]	> 350 ft.	350 - 200 ft	199 - 100 ft	<100 ft	4
Drainage Class Determined using Phosphorus Index Drainage Class Determination	Somewhat Excessively OR Excessively	Well OR Moderately Well	Somewhat Poorly	Poorly OR Very Poorly	4
Runoff Control	Recommended conservation practices are in place. **Very low potential for concentrated flow.**	Some conservation practices are in place. **Low potential for concentrated flow.**	Some conservation practices are in place. **Moderate potential for concentrated flow.**	No conservation practices are in place. **High potential for concentrated flow.**	3
					14
					Good

[a] Includes Perennial and Intermittent streams with defined bed and bank, Lakes, Ponds, Open sinkholes, and Active private and public water sources.

[b] If a field receives a rating of "2" in any two categories the field is not recommended for winter application regardless of the final field Ranking Value.

[c] If a field receives a rating of "1" in any one category the field is not recommended for winter application regardless of the final field Ranking Value.

Recommended Winter Manure Application Prioritization		
Ranking Value	*Ranking Category*	*Recommendation for Winter Manure Spreading Prioritization*
Greater than 12	Good	These fields should receive first priority for winter manure application.
8 to 12	Fair	These fields should receive second priority for winter manure application.
Less than 8	Poor	These fields are not recommended for winter manure application.

3 Revision History

Revision History	
Previous Revision Number	Description of Change
None	First Issue of this document