#### MICHIGAN STATE

## Using the OMP Template

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#### Versions of the OMP Template

- · Two different versions of the template
  - OMP Excel® 2007.xlxs
     For newer versions of Excel
  - OMP Excel 97 & 2003.xls
  - For older versions of Excel
  - Each version is available on the same site as this webinar

<sup>®</sup>Registered product of Microsoft

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#### **Odor Management Plan Template**

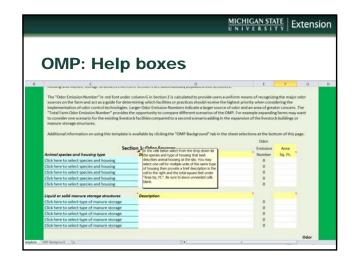
- Resources:
  - Michigan Agriculture Environmental Assurance Program (MAEAP) Progressive Planning Fact Sheet "Odor Management Plan" available:
  - http://www.maeap.org/uploads/files/Livestock/Odor-Management-Plan.pdf Michigan Dept of Agriculture and Rural Development (MDARD)
  - Site Selection GAAMPs Appendix B "Example Odor Management Plan" available: http://www.michigan.gov/documents/mdard/2012 FINAL SITE SELECTION GAAMP 37 8549 - 7.pdf
  - University of Minnesota bulletin
     "Preparing an Odor Management Plan" available:
     <u>http://www.extension.umn.edu/distribution/livestocksystems/Di7637.html</u>

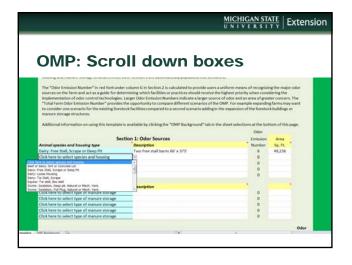
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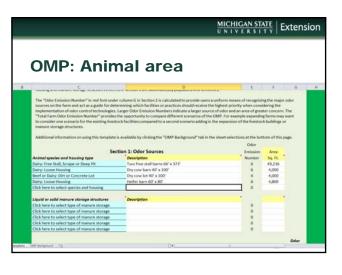
## **OMP Template**

- There are other paper copy versions of OMP templates available on-line
- This template:
  - Incorporates the resources from Minnesota OFFSET
  - Guides user through all the points generally included in an odor management plan
- Includes scroll down boxes and easy to use input cells
- Tool is intended to be valuable to the farmer and to the consultants and agency staff working with farmers

The Management Plan Transplane for User's 2007 and 2017 a		agement Pla	птетрь	ale
An example of the Maximum Fine. This trendmine sector that has the Maximum Andrews and Hard Constraints and and Hard Cons				
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source on the fame and cate a golds for detensing which facilities or practices should receive the higher practice of order control technologies. Larger dot for industry the intervention of the fame and or control technologies. Larger dot for industry themes industrial galaxies are over of order and areas of graviter contexm. The "facility and bote transition theorem is and and graviter contexmines of the technologies of the order industry the industry of th	input. The blue cells contain drop d Excel should use the OMP templat In Section 1 enter the type and the same type as one selection and the practices used on the farm and to c hossing and manure storage struct	town memos for users to select from. This OMP template for for Datailing and menure storage structures on the farm. In in enter their total square fact in column F under "Area 5q aculates an door finision Number for each housing and m ures entered in Section 1 are automatically populated into	anctions with Excel 2007 and 2010. Inis section it is easier to enter multi- t. <sup>*</sup> . Section 2 is used to identify our source storage structure listed in Sec- sections 2.	Earlier versions of ple facilities of the rent odor control tion 1. The
Section 1: Odor Sources         Ddar           Animal spectry and housing type         Decorption         Factor	sources on the farm and act as a gui implementation of odor control tec "Total Farm Odor Emission Number to consider one scenario for the eai	ide for determining which facilities or practices should rece choologies. Larger Odor Emission Numbers indicate a larger " provides the opportunity to compare different scenarios	ive the highest priority when consid source of odor and an area of great of the OMP. For example expanding	tering the or concern. The farms may want
Section 1: Odor Sources Emission Area Animal species and housing type Description Factor Sq. R.	Additional information on using the	s template is available by clicking the "OMP Background" to	b in the sheet selections at the both	om of this page.
Animal species and housing type Description Factor Sq. P.		to the LOLAST		
	Animal species and housing type			
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Click here to select species and housing 0	Click here to select species and hous	ing	0	



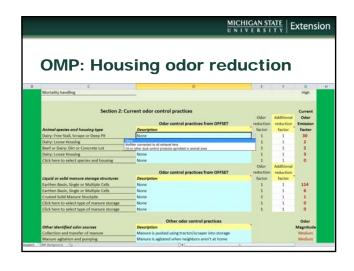




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OMP: Sect	tion 1: Odor	Sour	ces	5
E.	0	I	1.0	6
150	is available by clicking the "OMP Background" tab in the sh	eet selections at the bot Odor	tom of this	page.
Sec	tion 1: Odor Sources	Emission	Area	12
Animal species and housing type	Description	Number	Sq. Ft.	1
Dairy: Free Stall, Scrape or Deep Pit	Two free stall barrs 66' x 373'	6	49,236	
	Dry cow barn 40' s 100'			
Dairy: Loose Housing			4,000	
Dairy: Loose Housing Beef or Dairy: Dirt or Concrete Lot	Dry cow lot 40' x 100'	4	4,000	
Dainy: Loose Housing Beef or Dainy: Dirt or Concrete Lot Dainy: Loose Housing		6 6		
Dairy: Loose Housing Beef or Dairy: Dirt or Concrete Lot	Dry cow lot 40' x 100'	6 0	4,000	
Dairy: Loose Housing Reef or Dairy: Dirt or Concrete Lot Dairy: Loose Housing Click here to select species and housing	Dry cow lot 40" x 100" Heifer ban 50" x 80"		4,000	
Dairy: Loose Housing Beef or Dairy: Dirt or Concrete Lot Dairy: Loose Housing Click here to select species and housing Liquid or solid manure storage structures	Dry cow lot 40' x 100' Heifer barn 50' x 80' Description	•	4,000 4,800	
Dairy: Loose Housing Beef or Dairy: Dirk or Concrete Lot Dairy: Loose Housing Cick here to select species and housing Cick here to select species and housing Liquid or solid manure storage structures Earthen Basin, Single or Multiple Cells	Dry cow lot 40' x 100' Heiler bans 60' x 80' Description Free stall barn earthers storage 250' x 350'	. 13	4,000 4,800 87,500	
Dairy: Loose Housing Beef or Dairy: Dir or Concrete Lot Dairy: Loose Housing Click here to select species and housing Liquid or solid manure storage structures Earthen Baini, Single or Multiple Cells	Dry cow lot 40' x 100' Heifer barn 50' x 80' Description	0 13 13	4,000 4,800	
Dain's Loose Housing Beef or Dainy: Data Closerete lot Dainy: Loose Housing Click here to select species and housing <b>Upped or cold mesure atoroge structures</b> Earthen Basis, Single or Multiple Cells Earthen Basis, Single or Multiple Cells Evantes Solid Manuere Struckale en and the select selections	Dry cow lot 40' x 100' Heiler bans 60' x 80' Description Free stall barn earthers storage 250' x 350'	. 13	4,000 4,800 87,500	
Dain't Loose Housing Beef or Dainy: Dirt or Concernet Lot Dain't Loose Housing Click here to relect species and housing Liquid or solid monure storage structures Earthen Basis, Single or Multiple Cells Earthen Basis, Single or Multiple Cells Cutured Solid Munare Storagie	Dry cow lot 40' x 100' Heiler bans 60' x 80' Description Free stall barn earthers storage 250' x 350'	0 13 13 2	4,000 4,800 87,500	

OIVIP: Addi	tional odor s	ourc	es:	
c	D	Ŧ	Ŧ	6
Sec	tion 1: Odor Sources	Emission	Area	
Animal species and housing type	Description	Number	5q. Ft.	• * *
Dairy: Free Stall, Scrape or Deep Pit	Two free stall barns 66' x 373'	6	49.236	
Dairy: Loose Housing	Dry cow barn 40' x 100'	6	4,000	
Beef or Dairy: Dirt or Concrete Lot	Dry cow lot 40' x 100'	4	4,000	
Dairy: Loose Housing	Heifer barn 60' x 80'	6	4,800	
Click here to select species and housing		0		
Liquid or solid manure storage structures	Description			
Earthen Basin, Single or Multiple Cells	Free stall barn earthen storage 250' x 350'	13	87,500	
Earthen Basin, Single or Multiple Cells	Dry cow lot runoff storage 60' x 75' Heifer barn stock pile 20' x 30'	13	4,500	
Crusted Solid Manure Stockpile Click here to select type of manure storage	Heiter barn stock pile 20" x 30"	2	6,000	
Click here to select type of manure storage		0		
Cack here to select type of manure storage				
	Lated below are additional odor sources which are			Odor
Other odor sources	not considered in OFFSET. The "Odor Fotential" on			Potenti
Collection and transfer of manure	the right in column G gives the worst case			High
Manure agitation and pumping	evaluation. Below in section 2 "Current odor control practices", and in the text boxes, users are provided			High
Manure land application	the opportunity to provide greater detail on each			High
Field stacking of manure	odor source.			High
Stored feed/bunk silo/face of bunk silo				High
Feed processing and feed storage area				Hip
Mortality handling				High

	U N	HIGAN ST	TY	xtensi
OMP: Sect	ion 2: Odor c	ontr	ol	
c	D	t		6
Mortality handling				High
Animal species and housing type Dairy: Free Stall, Scrape or Deep Pit Dairy: Loose Housing Beef or Dairy: Dif or Concrete Lot Dairy: Loose Housing Cick here to select species and housing	Description None None None None None	factor I 1 1 1 1	factor 1 1 1 1 1	Fector 30 2 2 3 0
Liquid or solid manure storage structures	Odor control practices from OFFSET Description	Odor reduction factor	Additional reduction factor	
Earthen Basin, Single or Multiple Cells	None	1	1	114
Earthen Basin, Single or Multiple Cells Crusted Solid Manure Stockpile	Note	1	1	
Crusted Solid Manure Stockpile Click here to select type of manure storage	None	1	- 4	1
Click here to select type of manure storage Click here to select type of manure storage	None	1		
Other identified odor sources Collection and transfer of manure	Other odor control practices Description Manure in pushed using tractor/scraper into storage	-		Odor Magnitude Medium
Manure agitation and pumping	Manure is agitated when neighbors aren't at home			Medium



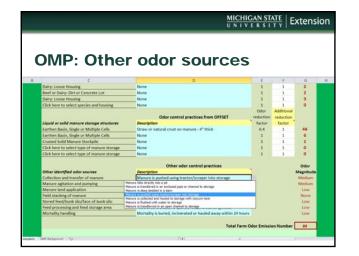
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				•
JMP: Manu	re storage odor	rea	ucτ	ion
	5			
C	D	Ē	Ŧ	6
Mortality handling				High
Michael Contraction				1.82583
Section 2:	Current odor control practices	10000000		Current
	Contraction of the second second	Odor	Additional	Odor
Animal species and housing type	Odor control practices from OFFSET Description	reduction	reduction factor	Emission
Dairy: Free Stall, Scrape or Deep Pit	None	Tactor	1	10
Dairy: Loose Housing	Nove			2
Beef or Dairy: Dirt or Concrete Lot	None		1	2
Dairy: Loose Housing	Nor	1	1	1
Click here to select species and housing	None	1	1	0
		Odor	Additional	1.12
	Odor control practices from OFFSET	reduction	reduction	
Liquid or solid manure storage structures	Description	factor	factor	and the second second
Earthen Basin, Single or Multiple Cells	None	0 1	1	114
Earthen Basin, Single or Multiple Cells	Gentantile cover (>2.4mm or 1 mch thick)	1	1	6
Crusted Solid Manure Stockpile	Straw or natural cruit on manure ( 2" thick Straw or natural cruit on manure ( 4" thick	1	1	1
Click here to select type of manure storage	Straw or natural crust on manure : 6" thick	1	1	•
Click here to select type of manure storage	Straw or natural cruit on manure : 8" thick Impermeatile cover including plastic or concrete	1	1	•
	Other odor control practices			Odor
Other identified odor sources	Description			Magnitude
Collection and transfer of manure	Manure is pushed using tractor/scraper into storage			Medium
Manure agitation and pumping	Manure is agitated when neighbors aren't at home			Medium

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# OMP: Manure storage odor reduction

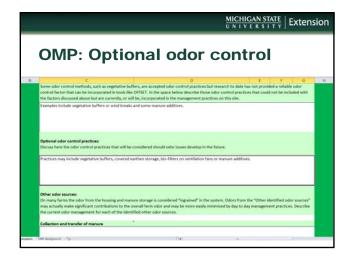
- 12		D			G
ľ	fortality handling				High
	Section 2: C	urrent odor control practices			Current
			Odor	Additional	Odor
		Odor control practices from OFFSET	reduction	reduction	Emission
	nimal species and housing type	Description	factor	factor	Factor
D	wiry: Free Stall, Scrape or Deep Pit	None	1	1	30
D	wiry: Loose Housing	None	1	1	2
B	eef or Dairy: Dirt or Concrete Lot	None	1	1	2
D	airy: Loose Housing	None	1	3	3
C	lick here to select species and housing	None	1	- 1	0
			Odor	Additional	
		Odor control practices from OFFSET	reduction	reduction	
U	iquid or solid manure storage structures	Description	factor	factor	
6	arthen Basin, Single or Multiple Cells	Straw or natural crust on manure : 4" thick	0.4	1	46
E	arthen Basin, Single or Multiple Cells	None	1	- 1	6
0	rusted Solid Manure Stockpile	None	1	1	1
C	lick here to select type of manure storage	None	1	- 1	0
0	lick here to select type of manure storage	None	1	3	0
		Other odor control practices			Oder
	ther identified odor sources	Description			Magnitude
C	ollection and transfer of manure	Manure is pushed using tractor/scraper into storage			Medium
Μ	fanure agitation and pumping	Manure is agitated when neighbors aren't at home			Medium
0.000	Hadamad G	1011			

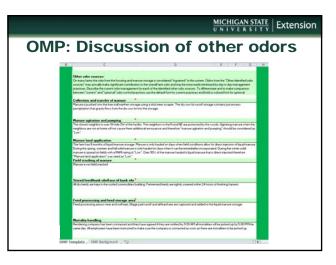


	0.11	ERSI	111	Extens	
<b>OMP:</b> Tota	l odor				
c	D	E	Ŧ	G	-
Dairy: Free Stall, Scrape or Deep Pit	None	1	1	30	
Dairy: Loose Housing	None	1	1	2	
Beef or Dairy: Dirt or Concrete Lot	None	1	1	2	
Dairy: Loose Housing	None	1	1		
Click here to select species and housing	None	1	1	0	
		Odor	Additional		
and the second se	Odor control practices from OFFSET	reduction	reduction		
Liquid or solid monure storage structures	Description	factor	factor		
Earthen Basin, Single or Multiple Cells	Straw or natural crust on manure : 4* thick	0.4	1	46	
Earthen Basin, Single or Multiple Cells	None	1	1	6	
Crusted Solid Manure Stockpile	None	1	1	1	
Click here to select type of manure storage	None	1	- 1	0	
Click here to select type of manure storage	None	1	1	0	
and the second	Other odor control practices			Odor	
Other identified odor sources	Description			Magnitude	
Collection and transfer of manure	Manure is pushed using tractor/scraper into storage			Medium	
Manure agitation and pumping	Manure is agitated when neighbors aren't at home			Medium	
Manure land application	Manure is incorporated within 24 hours			Med/High	
Field stacking of manure Stored feed/bunk silo/face of bunk silo	Manure is not stacked in fields			None	
	Feed is covered (plastic, roof or bin) and has slight spoilage			Low	
Feed processing and feed storage area	Feed area is clean/no spoiled feed/no standing water		122	Low Medium	
Mortality handling	Mortality is buried, incinerated or hauled away within 24 to 48	nrs. after de	101	Medun	
	Total Farm	Odor Emissi	on Number		
	Total Parm	Upper cmissi	on number		

OMP: Tota	l odor				
c	p	E	Ŧ	6	_
Dairy: Free Stall, Scrape or Deep Pit	None	1	1	30	-
Dairy: Loose Housing	None	1	1	2	
Beef or Dairy: Dirt or Concrete Lot	None	1	1	2	
Dairy: Loose Housing	None	1	1	3	
Click here to select species and housing	None	1	1	0	
	E Contraction of the statement of the st	Odor.	Additional		
ANTER DOCTORS OF ALL AND	Odor control practices from OFFSET	reduction	reduction		
Liquid or solid manure storage structures	Description	factor	factor		
Earthen Basin, Single or Multiple Cells	Straw or natural crust on manute : 4* thick	0.4	1	46	
Earthen Basin, Single or Multiple Cells	None	1	1	6	
Crusted Solid Manure Stockpile	None	1	1	1	
Click here to select type of manure storage	None	1	1	0	
Click here to select type of manute storage	None	1	1	0	
Other identified odor sources	Other odor control practices			Odor Magnitude	
Collection and transfer of manure	Manure is pushed using tractor/scraper into storage			Medium	
Manure aditation and pumping	Manure is agitated when neighbors aren't at home			Medium	
Manure land application	Manure is injected			Low	
Field stacking of manure	Manure is not stacked in fields			None	
Stored feed/bunk silo/face of bunk silo	Feed is covered (plastic, roof or bin) and has slight spollage			LOw	
Feed processing and feed storage area	Feed area is clean/no spoiled feed/no standing water			Low	
Mortality handling	Mortality is buried, incinerated or hauled away within 24 hours			Low	
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1				and the second	
	Total Farm (	Mor Emissis	on Number	89	

٥N	IP: Odor reduc	tion factor	S
	¢	D E	FG
Incorpora research a	n of "Additional reduction factor": ing an "Additional reduction factor" into the odor management plan di publiked in actension bulletor oper reviewed article. In the fing reduction factor and a reference to the bulletin or article.		
Some odd control fa	for control practices without oder reduction factors: control methods, such as vegetative buffers, are accepted oder co tor that can be incorporated in tool like OFFST. In the space belo discussed above that are currently, or will be, incorporated in the m	w describe those odor control practices that could	
Examples	include vegetative buffers or wind breaks and some manure additive	•	
Ontinnal	dor control practices:		





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annoyance. One suggest This practice person, equi	aal has a unique response to farm odors. So When odor concerns arise it is difficult to d ion is for farm management to ask individu r will not appease the concerned resident b	letermine if the concerned resident is ex- als unrelated to the farm, but whose opi- sut will inform the manager if the odors s iltoring doesn't need to be formal and co	we while others may find the same odor a m remely sensitive or if the odor is extremely sion they trisit, to monitor the odor level at eem excessive. These individuals could be a uld be as simple as asking them as they drive	the farm. leed sale
Open dialog planned com normal funct the farm, reg	nmunity activities that will help maintain an tions. These community activities may be a gular farm newsletters or just making it a po	open dialog between the farm manager is simple as delivering meat to neighbors	ghborhood conflict, in the space below desc enet and those rural residents impacted by t on holidays, hosting a neighborhood picsic a r. Other community activities that should be	he fanm's nd tour o

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# **Odor Management Plan Template**

OMP is complete Save under a unique name Print off hard copies Share with state or federal agency staff MDARD Right to Farm visit MDARD Site Selection Verification Request

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Thank you

For questions and concerns contact: Jerry May mayg@msu.edu