Full Coverage Bovine with Cropland Annual Report
Cover Sheet

Use this guide to help you complete your Annual Report If you are a Full Coverage bovine operation with cropland that is not enrolled under the ILRP or with enrolled cropland that receives bovine wastewater.

This spreadsheet must be completed IN ADDITION TO the report generated by the Merced County reporting tool (https://apps.co.merced.ca.us/dwnm/pages/login/Registration.aspx)

If you are a Full Coverage bovine operation without cropland or if your cropland is enrolled under the ILRP and only has manure or chemical fertilizers applied to it, you need to use the Full Coverage No Cropland Bovine Operations Annual Report spreadsheet located at (location of form).

If you are a Limited Time Bovine Operation, you may use the Limited Time Bovine Operation Annual Report form located at (location of form).

Please refer to your Notice of Applicability if you are not sure of the classification of your bovine operation (Full Coverage, Limited Time, or Limited Population).

Full Coverage Bovine with Cropland Annual Report
General Order No. R5-2017-0058

Reporting Period: 01/01/ _____ to 12/31/ _____

BOVINE FACILITY INFORMATION

What year is this report being created for? 2020

A. NAME OF BOVINE FACILITY: _____

Physical address of bovine facility:

Number and Street	*City*	*County*	*Zip Code*

Street and nearest cross street (if no address): _____

Date facility was placed in operation: _____

County Assessor Parcel Number(s) for bovine facility: (Multiple parcels **must** be separated by a comma and space)

B. OPERATORS

Operator Name: _____ Telephone no.: _____ _____

Landline *Cellular*

Mailing Address Number and Street	*City*	*County*	*Zip Code*

C. OWNERS

Property owner name _____ Telephone no.: _____ _____

Landline *Cellular*

Mailing Address Number and Street	*City*	*County*	*Zip Code*

Which party is responsible for paying permit fees? _____

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AVAILABLE NUTRIENTS

A. HERD INFORMATION (use pages 4 & 5 to calculate Animal Units)

	Beef Cattle	Dry Cows	Bred Heifers (2 yr. and older)	Heifers (1 yr. to breeding)	Calves (3 mo.-1 yr.)	Calves (less than 3 mo.)
Number open confinement						
Number under roof						
Maximum number						
Average number						
Average Live Weight (lbs)						
Animal Unit (AU) Multiplication Factor	**1.2**	**Breed Dependent**	**0.73**	**0.73**	**0.35**	**0.21**
Number open confinement						
Number under roof						
Maximum number						
Average number						

* Dry Cow Animal Unit multiplication factor is based of majority breed. Jersey=1.0, Guernsey=1.2, and Holstein=1.4

Predominant breed: _____

B. MANURE GENERATED (use pages 6-9 to calculate)

Total manure excreted by the herd: _____ *tons per reporting period*

Total nitrogen from manure: _____ *lbs per reporting period* *After ammonia losses (30% loss applied):* _____ *lbs per reporting period*

Total phosphorus from manure: _____ *lbs per reporting period*

Total potassium from manure: _____ *lbs per reporting period for beef Cattle and Dry Cows*

☐ Solid Manure Sample Results (mineral analysis) (Attachment B)

One separate sample for each source of manure (corral, separator, etc.)

https://apps.co.merced.ca.us/dwnm/documents/AR_Computations_Documentation.pdf

http://www.iowabeefcenter.org/CattlemenConference/feedlotmanuremanagement.pdf

Animal Units (AU) Multiplication Factor

The following equations can be used to calculate **Animal Units**. The equations can be filled out using the information you provide in the **Bovine Annual Report** section **A. HERD INFORMATION**.

Beef Cattle

_____ $Number\ open\ confinement\ Beef\ Cattle \times 1.2\ Animal\ Units =$ _____ $Animal\ Units$

_____ $Number\ under\ roof\ Beef\ Cattle \times 1.2\ Animal\ Units =$ _____ $Animal\ Units$

_____ $Maximum\ number\ Beef\ Cattle \times 1.2\ Animal\ Units =$ _____ $Animal\ Units$

_____ $Average\ number\ Beef\ Cattle \times 1.2\ Animal\ Units =$ _____ $Animal\ Units$

Dry Cows

Dry Cow Animal Unit multiplication is based on majority breed. Enter the correct multiplication factor for X to complete the equation below

Multiplication Factors: Jersey = 1.0, Guernsey = 1.2, Holsteins = 1.4

_____ $Number\ open\ confinement\ Dry\ Cows \times X\ Animal\ Units =$ _____ $Animal\ Units$

_____ $Number\ under\ roof\ Dry\ Cows \times X\ Animal\ Units =$ _____ $Animal\ Units$

_____ $Maximum\ number\ Dry\ Cows \times X\ Animal\ Units =$ _____ $Animal\ Units$

_____ $Average\ number\ Dry\ Cows \times X\ Animal\ Units =$ _____ $Animal\ Units$

Bred Heifers (2 yr. and older)

_____ $Number\ open\ confinement\ Bred\ Heifers\ (2yr.and\ older) \times 0.73\ Animal\ Units =$ _____ $Animal\ Units$

_____ $Number\ under\ roof\ Bred\ Heifers\ (2yr.and\ older) \times 0.73\ Animal\ Units =$ _____ $Animal\ Units$

_____ $Maximum\ number\ Bred\ Heifers\ (2yr.and\ older) \times 0.73\ Animal\ Units =$ _____ $Animal\ Units$

_____ $Average\ number\ Bred\ Heifers\ (2yr.and\ older) \times 0.73\ Animal\ Units =$ _____ $Animal\ Units$

Heifers (1 yr. to breeding)

_____ $Number\ open\ confinement\ Bred\ Heifers\ (1yr. - Breeding) \times 0.73\ Animal\ Units =$ _____ $Animal\ Units$

_____ $Number\ under\ roof\ Bred\ Heifers\ (1yr. - Breeding) \times 0.73\ Animal\ Units =$ _____ $Animal\ Units$

_____ $Maximum\ number\ Bred\ Heifers\ (1yr. - Breeding) \times 0.73\ Animal\ Units =$ _____ $Animal\ Units$

_____ $Average\ number\ Bred\ Heifers\ (1yr. - Breeding) \times 0.73\ Animal\ Units =$ _____ $Animal\ Units$

Calves (3 mo. – 1 yr.)

_____ $Number\ open\ confinement\ Calves\ (3mo. - 1yr.) \times 0.35\ Animal\ Units =$ _____ $Animal\ Units$

_____ $Number\ under\ roof\ Calves\ (3mo. - 1yr.) \times 0.35\ \ Animal\ Units =$ _____ $Animal\ Units$

_____ $Maximum\ number\ Calves\ (3mo. - 1yr.) \times 0.35\ \ Animal\ Units =$ _____ $Animal\ Units$

_____ $Average\ number\ Calves\ (3mo. - 1yr.) \times 0.35\ \ Animal\ Units =$ _____ $Animal\ Units$

Calves (less than 3 mo.)

_____ $Number\ open\ confinement\ Calves\ (less\ than\ 3mo.) \times 0.21\ Animal\ Units =$ _____ $Animal\ Units$

_____ $Number\ under\ roof\ Calves\ (less\ than\ 3mo.) \times 0.21\ \ Animal\ Units =$ _____ $Animal\ Units$

_____ $Maximum\ number\ Calves\ (less\ than\ 3mo.) \times 0.21\ \ Animal\ Units =$ _____ $Animal\ Units$

_____ $Average\ number\ Calves\ (less\ than\ 3mo.) \times 0.21\ \ Animal\ Units =$ _____ $Animal\ Units$

Total manure excreted by the herd

The following equations can be used to calculate **Total manure excreted by the herd** in tons per reporting period. The equations can be filled out using the information you provide in the **Bovine Annual Report** section **A. HERD INFORMATION**.

1. _____ $Average\ number\ of\ Beef\ Cattle \times 66 =$ _____ $lbs.manure/day$

2. $\left(\left(\left(\left(\frac{\text{\_\_\_\_} Average\ Live\ weight\ (lbs) of\ Dry\ Cow}{2.205}\right) \times 0.022\right) + 21.844\right) \times 2.205\right) \times$ _____ $Average\ number\ of\ Dry\ Cows =$ _____ $lbs.manure/day$

3. $\left(\left(\left(\left(\frac{\text{\_\_\_\_} Average\ Live\ weight\ (lbs)\ of\ Bred\ Heifers\ (2yr.and\ older)}{2.205}\right) \times 0.022\right) + 21.844\right) \times 2.205\right) \times$ _____ $Average\ number\ of\ Bred\ Heifers\ (2yr.and\ older) =$ _____ $lbs.manure/day$

4. $\left(\left(\left(\left(\frac{\text{\_\_\_\_} Average\ Live\ weight\ (lbs) of\ Bred\ Heifers\ (1yr.-breeding)}{2.205}\right) \times 0.022\right) + 21.844\right) \times 2.205\right) \times$ _____ $Average\ number\ of\ Bred\ Heifers\ (1yr.-breeding) =$ _____ $lbs.manure/day$

5. (_____ $Average\ number\ of\ Calves\ (3mo.-1yr.) +$ _____ $Average\ number\ of\ Calves\ (less\ than\ 3\ mo.)) \times 0.0099 =$ _____ $lbs.manure/day$

Once you have lbs. manure/day for the categories of animals you have on site, enter them into the following equation:

$$(1.+2.+3.+4.+5.) \times \left(\frac{365\ days}{2000\ lbs.}\right) = \text{\_\_\_\_\_} Tons\ per\ reporting\ period$$

Enter the value you receive for **tons per reporting period** into the **Bovine Annual Report** section **B. Manure Generated** column **Total manure excreted by the herd:.**

Total nitrogen from manure

The following equations can be used to calculate **Total nitrogen from manure** in lbs. per reporting period. The equations can be filled out using the information you provide in the **Bovine Annual Report** section **A. HERD INFORMATION**.

1. _____ $Average\ number\ of\ Beef\ Cattle \times 0.48 =$ _____ $lbs.nitrogen/day$
2. _____ $Average\ number\ of\ Dry\ Cows \times 0.50 =$ _____ $lbs.nitrogen/day$
3. $($ _____ $Average\ number\ of\ Heifers\ (2yr.and\ older) +$ _____ $Average\ number\ of\ Heifers\ (1yr.-breeding)\big) \times 0.26 =$ _____ $lbs.nitrogen/day$
4. $($ _____ $Average\ number\ of\ Calves\ (3mo.-1yr.) +$ _____ $Average\ number\ of\ Calves\ (Less\ than\ 3mo.)\big) \times 0.14 =$ _____ $lbs.nitrogen/day$

Once you have lbs. nitrogen/day for the categories of animals you have on site, enter them into the following equation:

$(1.+2.+3.+4.) \times 365\ days =$ _____ $lbs.nitrogen/reporting\ period$

Enter the value you receive for **lbs. nitrogen per reporting period** into the **Total nitrogen from manure:** in the **Bovine Annual Report** section **B. Manure Generated** column **Total nitrogen from manure:.**

Total phosphorus from manure

The following equations can be used to calculate **Total phosphorus from manure** in lbs. per reporting period. The equations can be filled out using the information you provide in the **Bovine Annual Report** section **A. HERD INFORMATION**.

1. _____ $Average\ number\ of\ Beef\ Cattle \times 0.085 =$ _____ $lbs.phosphorus/day$
2. _____ $Average\ number\ of\ Dry\ Cows \times 0.066 =$ _____ $lbs.phosphorus/day$
3. $($ _____ $Average\ number\ of\ Heifers\ (2yr.and\ older) +$ _____ $Average\ number\ of\ Heifers\ (1yr.-breeding))\times 0.044 =$ _____ $lbs.phosphorus/day$
4. $($ _____ $Average\ number\ of\ Calves\ (3mo.-1yr.) +$ _____ $Average\ number\ of\ Calves\ (Less\ than\ 3mo.))\times 0.0099 =$ _____ $lbs.phosphorus/day$

Once you have lbs. phosphorus/day for the categories of animals you have on site, enter them into the following equation:

$(1.+2.+3.+4.) \times 365\ days =$ _____$lbs.phosphorus/reporting\ period$

Enter the value you receive for **lbs. phosphorus per reporting period** into the **Total phosphorus from manure:** in the **Bovine Annual Report** section **B. Manure Generated** column **Total phosphorus from manure:.**

Total potassium from manure

The following equations can be used to calculate **Total potassium from manure** in lbs. per reporting period. The equations can be filled out using the information you provide in the **Bovine Annual Report** section **A. HERD INFORMATION**.

1. _____ $Average\ number\ of\ Beef\ Cattle \times 0.30 =$ _____ $lbs.potassium/day$

2. _____ $Average\ number\ of\ Dry\ Cows \times 0.33 =$ _____ $lbs.potassium/day$

Due to limited information, total potassium for heifers (2yr.and older), heifers (1yr.-breeding), calves (3mo.to 1yr.), and calves (Less than 3mo.) are not required.

Once you have lbs. potassium/day for the categories of animals you have on site, enter them into the following equation:

$(1. + 2.) \times 365\ days =$ _____ $lbs.potassium/reporting\ period$

Enter the value you receive for **lbs. potassium per reporting period** into the **Total potassium from manure:** in the **Bovine Annual Report** section **B. Manure Generated** column **Total potassium from manure:.**

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Reporting Period: 01/01/ _____ to 12/31/ _____

Annual Report Attachment Checklist

Copies of the following lab reports need to be submitted to the Water Board as part of the Annual Report:

Manure Analysis

☐ One sample from each source collected twice a year

- ☐ total Kjeldahl nitrogen
- ☐ total phosphorus
- ☐ Percent moisture
- ☐ Total potassium

Once every two years

- ☐ Calcium
- ☐ Magnesium
- ☐ Sodium
- ☐ Potassium
- ☐ Chloride

(Process) Wastewater Analysis

☐ Quarterly during one application event

- ☐ nitrate nitrogen (if wastewater pond is aerated)
- ☐ ammonia-nitrogen
- ☐ total Kjeldahl nitrogen
- ☐ total phosphorous
- ☐ total potassium
- ☐ total dissolved solids

☐ Once every two years

- ☐ Calcium
- ☐ Magnesium
- ☐ Sodium
- ☐ Potassium
- ☐ Bi-carbonate
- ☐ Carbonate
- ☐ Sulfate
- ☐ Chloride

Fresh Water Analysis

☐ one irrigation event during each irrigation season from each source (well, canal)

- ☐ total dissolved solids
- ☐ total nitrogen

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Soil Analysis

☐ Annually from each land application area in the fall

☐ total nitrogen

☐ once every five year from each land application area

☐ soluble phosphorous

Plant Tissue Analysis

☐ Sample collected during harvest of crop

☐ total nitrogen

☐ percent moisture

If a sample was not collected or if a constituent was not analyzed please explain why in the box below:

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CERTIFICATION

A. OWNER AND/OR OPERATOR CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry and those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

SIGNATURE OF OWNER OF FACILITY	SIGNATURE OF OPERATOR OF FACILITY
PRINT OR TYPE NAME	PRINT OR TYPE NAME
DATE	DATE

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ATTACHMENT B - SOLID MANURE SAMPLE RESULTS

This attachment needs to be completed **every other year**

Solid Manure Sample Number: _____

Location Sampled (Corral, Separator, etc.): _____

Date Sampled: _____ Moisture percentage: _____

	Calcium (mg/kg)	Magnesium (mg/kg)	Sodium (mg/kg)	Potassium (mg/kg)	Chloride (mg/kg)
Value					
DL					
Date Analyzed					

Solid Manure Sample Number: _____

Location Sampled (Corral, Separator, etc.): _____

Date Sampled: _____ Moisture percentage: _____

	Calcium (mg/kg)	Magnesium (mg/kg)	Sodium (mg/kg)	Potassium (mg/kg)	Chloride (mg/kg)
Value					
DL					
Date Analyzed					

Solid Manure Sample Number: _____

Location Sampled (Corral, Separator, etc.): _____

Date Sampled: _____ Moisture percentage: _____

	Calcium (mg/kg)	Magnesium (mg/kg)	Sodium (mg/kg)	Potassium (mg/kg)	Chloride (mg/kg)
Value					
DL					
Date Analyzed					

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Solid Manure Sample Number: _____

Location Sampled (Corral, Separator, etc.): _____

Date Sampled: _____ Moisture percentage: _____

	Calcium (mg/kg)	Magnesium (mg/kg)	Sodium (mg/kg)	Potassium (mg/kg)	Chloride (mg/kg)
Value					
DL					
Date Analyzed					

Solid Manure Sample Number: _____

Location Sampled (Corral, Separator, etc.): _____

Date Sampled: _____ Moisture percentage: _____

	Calcium (mg/kg)	Magnesium (mg/kg)	Sodium (mg/kg)	Potassium (mg/kg)	Chloride (mg/kg)
Value					
DL					
Date Analyzed					

Solid Manure Sample Number: _____

Location Sampled (Corral, Separator, etc.): _____

Date Sampled: _____ Moisture percentage: _____

	Calcium (mg/kg)	Magnesium (mg/kg)	Sodium (mg/kg)	Potassium (mg/kg)	Chloride (mg/kg)
Value					
DL					
Date Analyzed					

ATTACHMENT D
ORDER R5-2017-0058
MANURE/ WASTERWATER TRACKING MANIFEST
FOR
CONFINED BOVINE FEEDING OPERATIONS

Instructions:

1) Complete one manifest for each hauling event, for each destination. A hauling event may last for several days, as long as the manure is being hauled to the same destination.
2) If there are multiple destinations, **complete a separate form for each destination**.
3) The operator must obtain the signature of the hauler upon completion of each manure-hauling
4) The operator shall submit copies of manure/ wastewater tracking manifest(s) with the Annual Report for Confined Bovine Feeding Operations.
5) Manifests cannot be used when transferring manure or wastewater to cropland owned or controlled by the owner or operator of the Confined Bovine Feeding Operation as a substitute for preparing and implementing a Nutrient Management Plan for the cropland
6) Manifests are not needed to document the use of manure for bedding at the operation where the manure was generated.

Operation Information:

Name of Operator: _____

Name of Facility: _____

Facility Address: _____ _____ _____
Number and Street *City* *Zip Code*

Contact Person: _____ _____
Name *Number*

Manure/ Wastewater Hauler Information:

Name of Hauling Company/ Person: _____

Address of Hauling Company/ Person:

_____ _____ _____
Number and Street *City* *Zip Code*

Contact Person: _____ _____
Name *Number*

Destination Information

Composting Facility / Broker / Farmer / Other (identify) _____ (please select one)

Contact information of Composting Facility, Broker, Farmer, or Other (as identified above):

Contact Person: _____ _____
Name *Number*

_____ _____ _____
Number and Street *City* *Zip Code*

Manure/ Wastewater Destination Address or Assessor's Parcel Number:

_____ _____ _____
Number and Street *City* *Zip Code*

GPS coordniates of the manure/ wastewater destination: _____

Dates Hauled: _____

Amount Hauled:

Enter the amount of manure hauled in tons, the manure solids content, and the method used to calculate the amount:

Manure: _____ Tons

Manure Solids Content: _____

Method used to determine amount of manure:

Enter the amount of wastewater hauled in gallons and the method used to determine the amount:

Wastewater: _____ Gallons

Method used to determine volume of Wastewater:

Written Agreement

Does the Operator have a written agreement (in compliance with Land Application Specification E.2 of Waste Discharge Requirements General Order R5-2017-0058) with any party that receives wastewater from the Operator for its own use? (please check one)

☐ Yes
☐ No

Certification:

I declare under the penalty of law that I personally examined and am familiar with the information submitted in this document, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of a fine and imprisonment for knowing violations.

Operator's Signature: _____ Date: _____

Hauler's Signature: _____ Date: _____