

Alberta Phosphorus Management Tool

Manure Management Update 2015

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Objectives:

- To provide **background** on the APMT.
- To **review risks** being assessed.
- To look at **outputs** from the tool.





Background & Risks



What is the APMT ?

- Risk assessment tool
- Science-Based/Informed
- Focused on Phosphorus
- Assess risk at an operational level
- Suggests options to reduce P losses
 - BMPs

Why Phosphorus Risk Assessment ?

- Industry being proactive in addressing environmental stewardship
 - Social license
 - Water quality issues
 - Create an AB solution to P mgt.
- Help to target resources for P mgt.



What risks are being evaluated ?

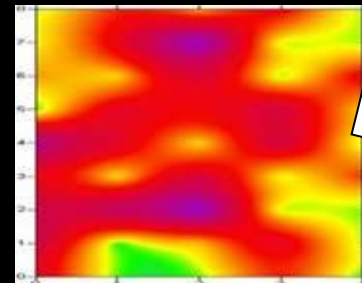
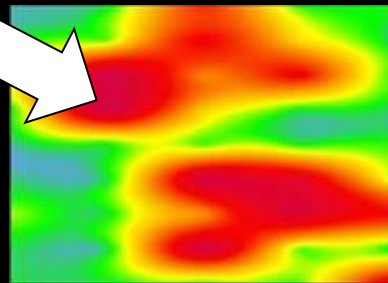
Flooding





Runoff / Run-on

Nutrient accumulation





Facility management

APMT asks about:

- Corrals, loafing lot or day pasture



AMPT asks about:

- Catchbasin management
- Liquid manure storage



AMPT asks about:

- Solid manure storage
- Temporary manure storage sites



AMPT asks about:

- Seasonal feeding and bedding sites
- Grazing and direct access



AMPT asks about:

- Cropping system
- Field management





Format

Format

- Series of questions
 - Yes/No or
 - Various practices or conditions
 - Risk levels
 - Low, Low to Moderate, Moderate to High, High
- BMP suggestions
- Potential concerns

Format

| | | Field Assessment | | | | | | | | |
|--|---------------|---------------------|----------------------------|-------------------------------------|----------------------|---|--|-----------------|---|--|
| Legal Land Designation or Name | | A | B | C | D | E | | | | |
| Field ID: Legal Land Designation or Name | | | | | | | | | | |
| Notes: | | | | | | | | | | |
| | | Risk Potential | | | | | | | | |
| | | Low Risk (Score) | Low to Moderate Risk | Moderate to High Risk (Score) | High Risk (Score) | | | BMP Suggestions | Potential Concerns | |
| Field Flood Risk Assessment | | | | | | | | | | |
| 1. Does part of the field flood from water flowing on to the site from a common body such as river, stream or lake? | No (1) | Yes (4) | | | | | | | Engineering so that river does not flood (\$\$\$\$,EEEE), Installation of run-on and run-off structures (\$\$-\$\$\$,EE), No fall manure application in area (\$, EEE), No broadcast fertilizer application in area (\$, EEE), Soil testing to monitor soil nutrient levels (\$\$, EE). | If the area floods then nutrients and manure constituents can be carried from the site. There is direct river contribution of nutrients and contaminants from site. |
| NOT BY WATER ACCUMULATING IN A LOW SPOT OF THE FIELD FROM THE FIELD IT SELF | | | | | | | | | | |
| If the Answer is Yes continue to the following questions #2-#3, if No flood risk assessment is complete, continue to Run-off Section and Qu # 13 | | | | | | | | | | |

Questions

- Distance to water bodies
- Slope
- Soil characteristics
- Crop type
- Soil test P levels
- Manure and fertilizer application
 - Rates, Timing, Placement
- Stocking rate



Outputs

APMT Output

- Detailed

| Overall Risk Ranking | | | | |
|----------------------|------|---------------------|-----------------------|--|
| Level of Risk | Name | Facilities / Fields | Type of Risk | BMP Options |
| Risk #1, 8 & 10 | | Grazing Pasture | General Site Flooding | <p>Engineer river or drainage so pasture does not flood (\$\$\$\$ EE), Install flood control structures (\$-\$\$\$\$ EEE), Relocation of water and shelter facilities out of flooding area (\$-\$\$, EEEE), Manure removal before flood event (\$, E), Delay livestock access until after flooding (\$, EE), Cross fence the pasture to minimize access to flooded area (\$\$, EE), Add another pasture to rotation and stop using area that floods (\$-\$\$\$\$ EEEE), Feed longer in another area to delay access to flooded pasture longer (\$-\$\$\$, EEE), Graze once area is frozen, stockpile grazing (\$, E), Turn flood area to wetland (\$-\$\$\$, EEEE).</p> |
| | | | Direct Access | <p>Install control structures to limit run-on and run-off water flow (\$\$\$\$, EEEE). Fense riparian area to restrict animal access (\$\$, EEE). Install off site watering so animals don't have to go through riparian area to access water (\$\$, EEEE). Fense livestock out of the Riparian area no access (\$\$\$, EEE), Fense livestock out of the riparian area, with later season access (\$\$, EEEE), Limit the amount of time animals are in the riparian area (\$, EE).</p> |



So Where are We Now!

Where are We Now!

- Piloting with producers & field staff
- Updating the tool after each use
- Continue to make tool more functional
- Continue to evaluate its effectiveness



Thank You



A COLLECTION OF AGRICULTURE CARTOONS

by
T- McCracken

