Western Canadian Farmer Opinions about Fertilizer Emissions Target

Conducted August 29, 2022

iFusion Research

Backdrop to Survey

- The Federal Government has set a national target to reduce absolute levels of nitrous oxide emissions from the application of synthetic fertilizers by 30% below 2020 levels by 2030.[1)]
- There has been much controversy on-line and in the farm media recently with farmers concerns over three aspects with the fertilizer emissions discussion:
  1. Is the target a de facto reduction in fertilizer use? The federal Ag Minister and others through the farm press have tried to reassure farmers the goal is not a fertilizer "use" reduction but a fertilizer "emissions reduction". Farmers are skeptical because of the way fertilizer emissions are calculated based on fertilizer use times an emission factor.
  2. The Ag Minister has also reiterated that reductions are voluntary and not mandatory. Farmers are concerned this will change, given the propensity of the federal government to use mandates to shape public policy. CR-19 mandates, carbon taxes, diesel fuel standards, meat labelling attempts etc.
  3. Although it is discussed, fertilizer innovations and new innovative farm practices such as those wrapped up in the 4R Nutrient Stewardship program, are not recognized in the emissions targets.

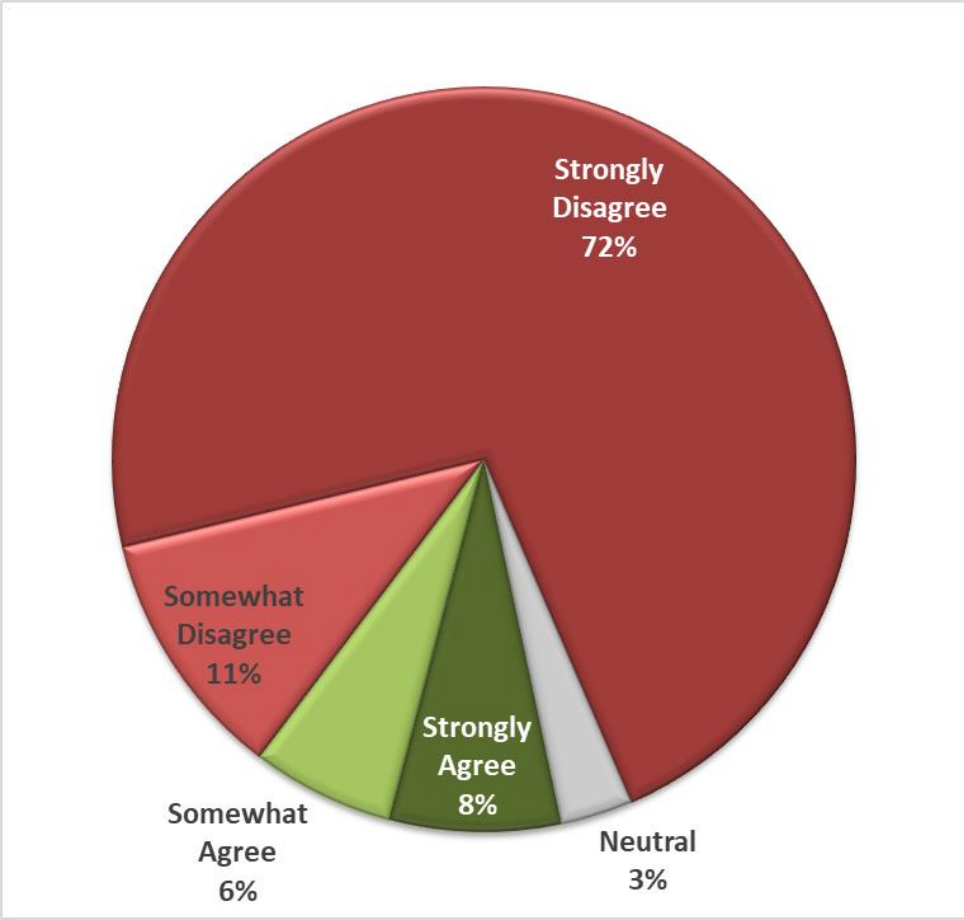
1) Agriculture and Agri-food Canada. 2022-08-16 Discussion Document: Reducing emissions arising from the application of fertilizer in Canada's agriculture sector

Survey Methodology

- A nine-question survey was fielded on August 29 in the provinces of Manitoba, Saskatchewan and Alberta using an automated phone survey.
- iFusion Research used its extensive database of commercial farmers in Canada to draw from.
- A total of 546 surveys were completed and the results were weighted by province based on the population of farms (90,176) as per Statistics Canada 2021 Census of Agriculture.
- To qualify respondents had to be currently farming.
- Manitoba was oversampled to reach at least 100 farmers given its lower farm population compared to Alberta and Saskatchewan.
- Results were tabulated in SPSS and statistical differences based on p=0.5 was applied.

	PROVINCE				SOIL ZONE			
Sample and Weighting	Total	Manitoba	Saskatchewan	Alberta	Black	Brown	Dark Brown	Gray
Unweighted Sample	546	111	193	242	311	60	104	71
Weighted Number of Farms	90,176	14,543	34,128	41,505	49,634	10,498	18,098	11,947
Weighting Factor	167	131	177	172	162	175	174	169

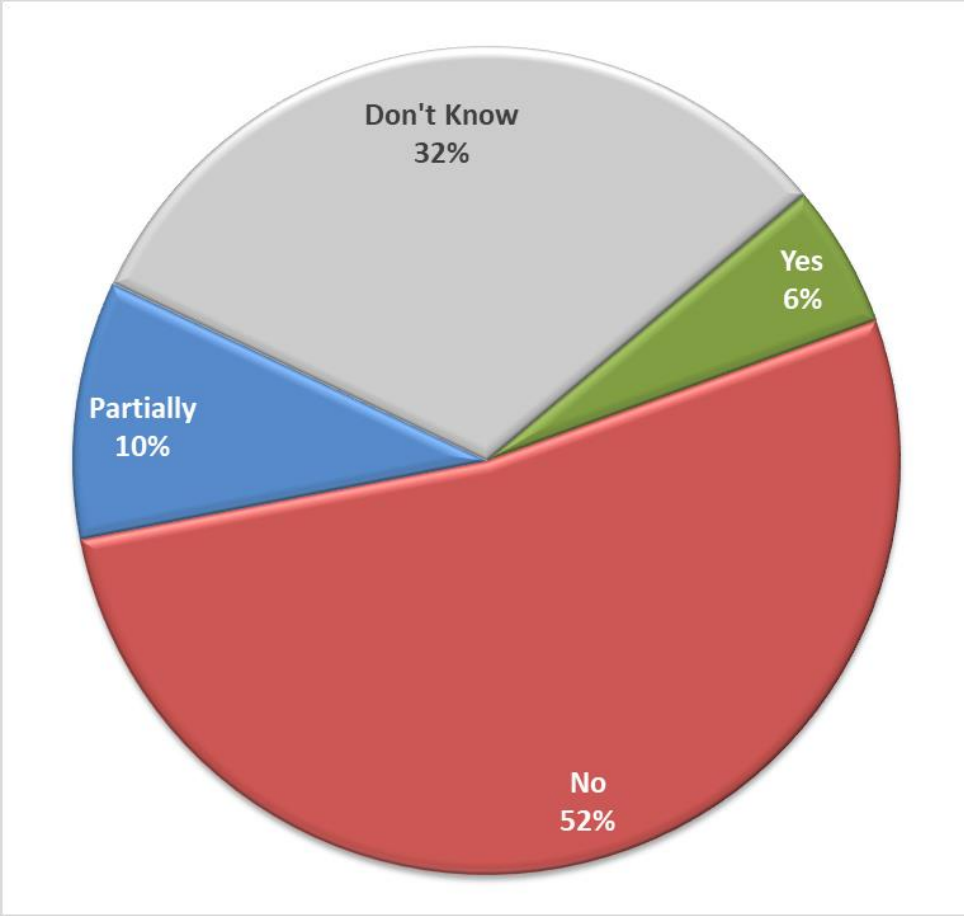
Farmers in Western Canada overwhelmingly Disagree with the 30% Fertilizer Emissions Reduction Target



- 83% Net Disagree vs. 14% Net Agree
- No significant differences by province
- Higher strong disagreement with farmers in the brown soil zone (82%)
- Less strong disagreement with those not using synthetic fertilizer (62%) and more neutral ratings (11%).

The Federal government has committed Canada to a national fertilizer emissions reduction target of 30% by 2030, with 2020 as the baseline. Do you agree with this target?

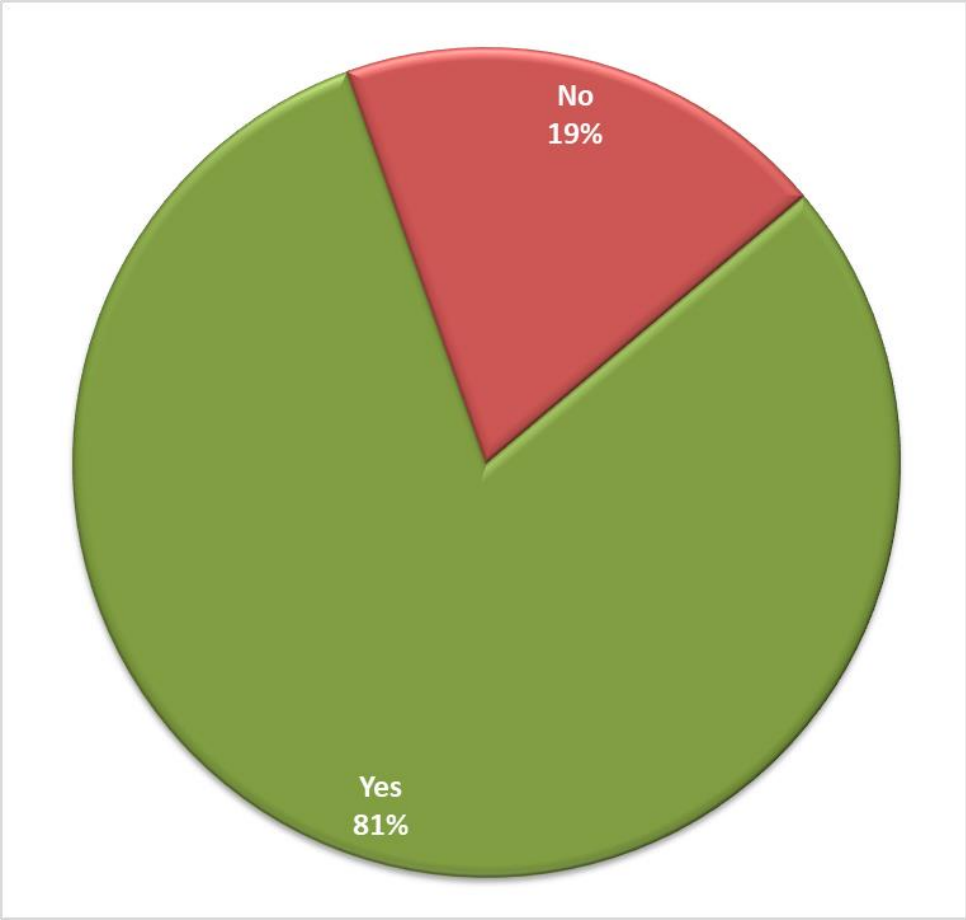
Half of all farmers believe that fertilizer emission estimates ignore actual farm practices



- No significant differences across provinces.
- More farmers in the gray soil zone don't know (45%)

Does the current method used by the federal government to estimate emissions from nitrogen fertilizer take into account actual farm practices?

Vast majority of farmers use synthetic fertilizer



- Significantly higher use in Manitoba (90%)
- No differences across soil zones
- The next three questions were not asked with farmers that do not use synthetic fertilizer.

Do you use synthetic fertilizer on your farm?

Measuring Farmers potential to meet targets as they are currently calculated

- Prior to the next question, farmers were educated on how fertilizer emissions are currently estimated.
- This is important because, as we see in a previous question, 32% did not know if the calculations took into account farm practices or not.

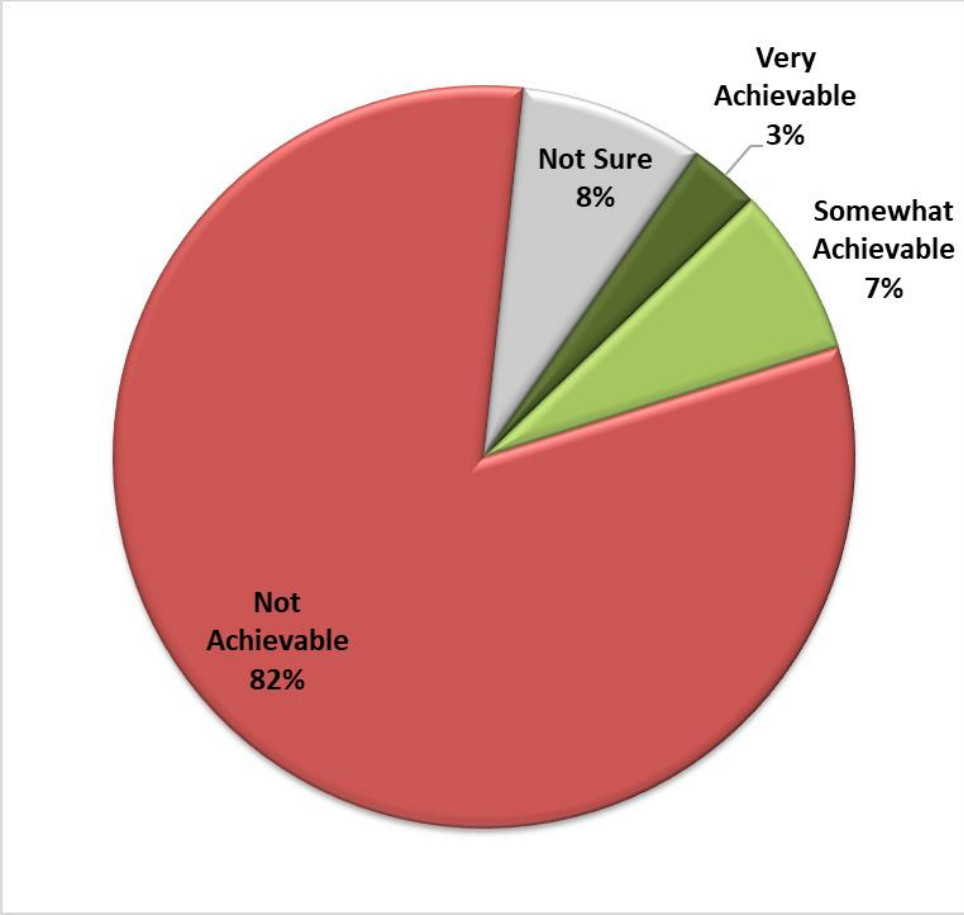
The explanation:

- "To calculate emissions, the federal government estimates fertilizer use by crop times a regional emissions factor which is mostly based on weather. The fertilizer use is based on provincial fertilizer shipments, recommended rates by crop and crop acres. "

The question:

- If the current estimation method remains in place, how achievable is a fertilizer emissions reduction of 30% by 2030 without reducing yields?

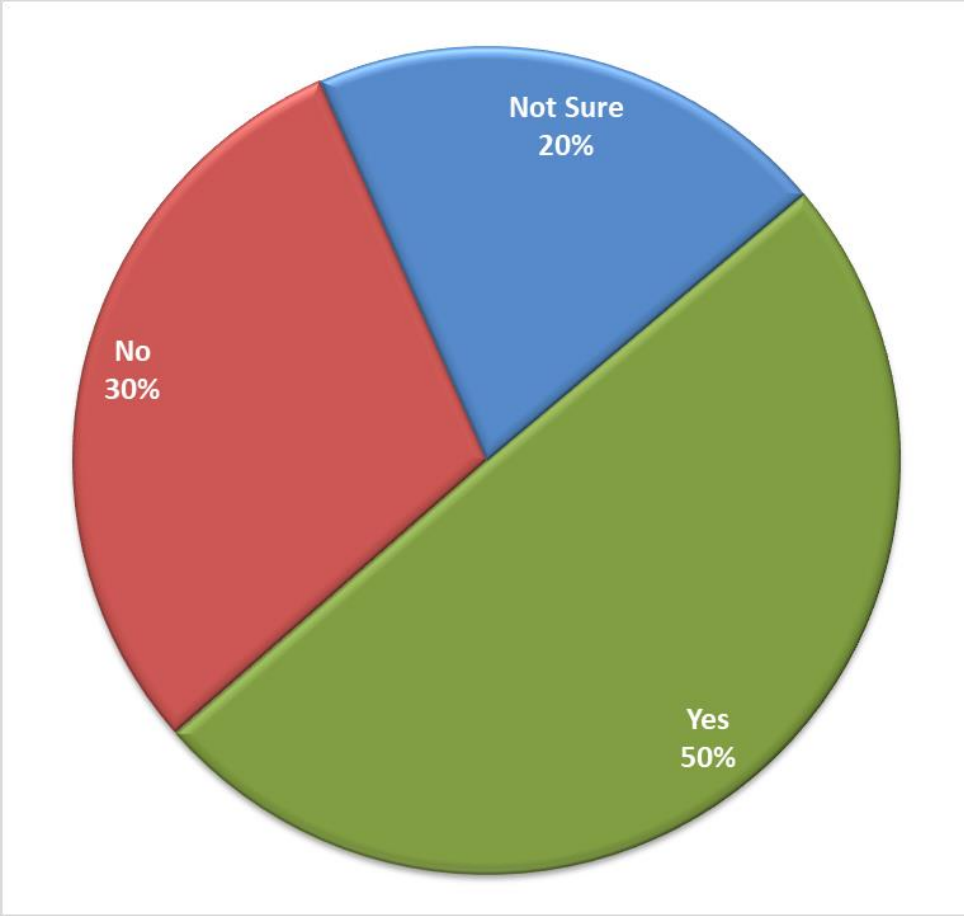
With the way emissions are currently calculated farmers are extremely pessimistic that targets can be reached without impacting yields



- No significant differences across provinces.
- More farmers in the gray soil zone answered "not sure"(19%)

If the current estimation method remains in place, how achievable is a fertilizer emissions reduction of 30% by 2030 without reducing yields?

½ of farmers are familiar with the 4R Nutrient Stewardship program



- No significant differences across provinces.
- Farmers in the brown soil zone are less likely to know about the program (43%)

Are you familiar with the 4R Nutrient Stewardship program promoted by the fertilizer industry?

Educating Farmers on the 4R Nutrient Stewardship Program

- Prior to the next question, farmers were educated on key components of the 4R Nutrient Stewardship program.
- This is important because, as we see in a previous question, 50% either were not familiar with the program or were not sure.

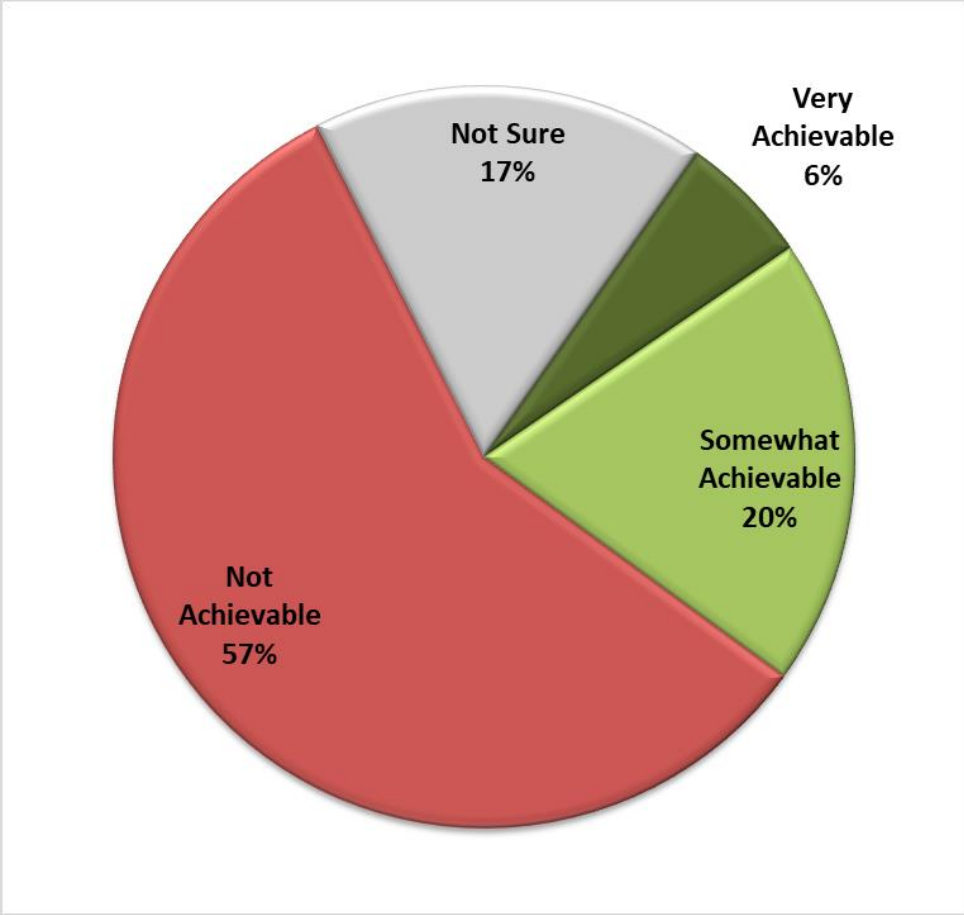
The explanation:

- "The 4R Nutrient Stewardship program is about using the right fertilizer, at the right rate, at the right time in the right place. It includes such things as soil testing, different formulations of fertilizer, fertilizer additives, variable rate technology, avoiding fall applications etc."

The question:

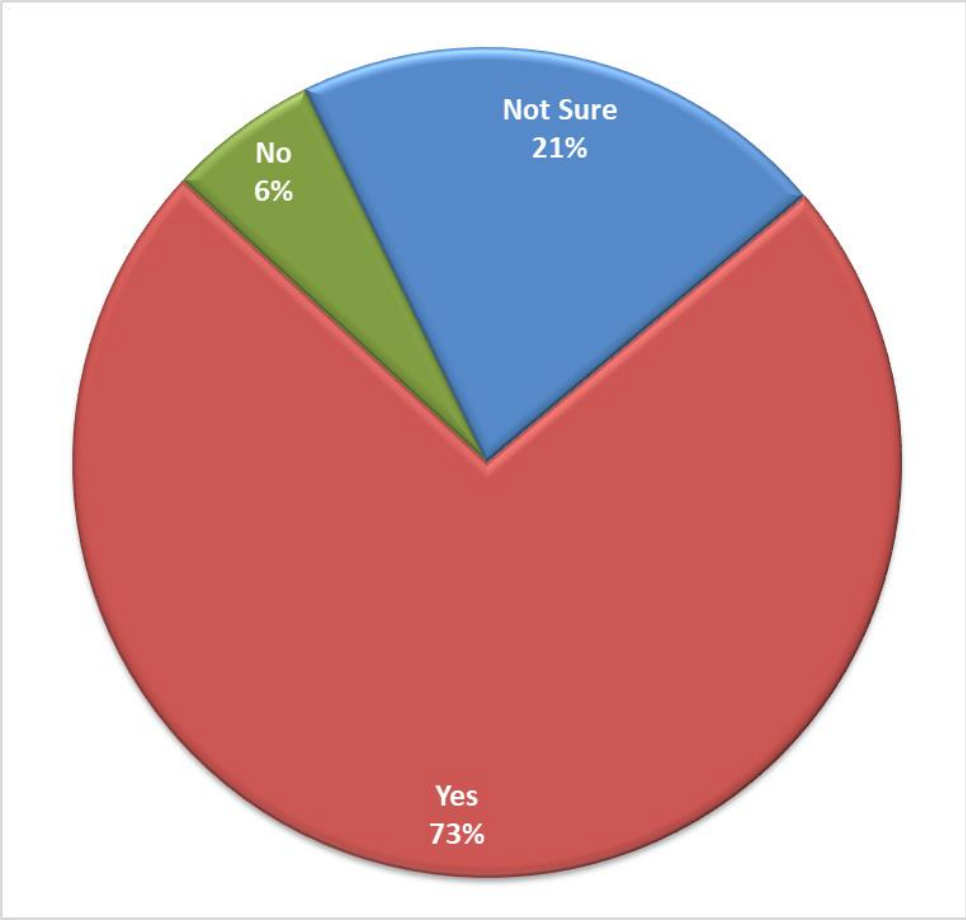
- If the federal government were to change the way they estimate fertilizer emissions, by taking into account the 4R's of fertilizer application, how achievable is a fertilizer emissions reduction of 30% by 2030 without reducing yields?

The majority are still pessimistic about reaching the targets even with 4R, however, optimism did improve



- With 4R in the mix, those saying the target was not achievable dropped from 82% to 57%.
- With 4R those saying it was achievable (very+ somewhat) grew from 10% to 26%.
- The proportion that were not sure is also a good sign moving from 8% to 17%.
- There are no significant differences across provinces or soil zones.

Trust in the Federal government's keeping it "voluntary" is very low



- According to recent statements by the federal Ag minister the 30% emissions reduction target is completely voluntary. If over the next 3 years, progress towards the target is not to the satisfaction of this government, do you believe they will force mandates such as caps on fertilizer use?
- No significant differences by province.
- Farmers in the brown soil zone are much more skeptical it will be mandated (87% yes)

Summary

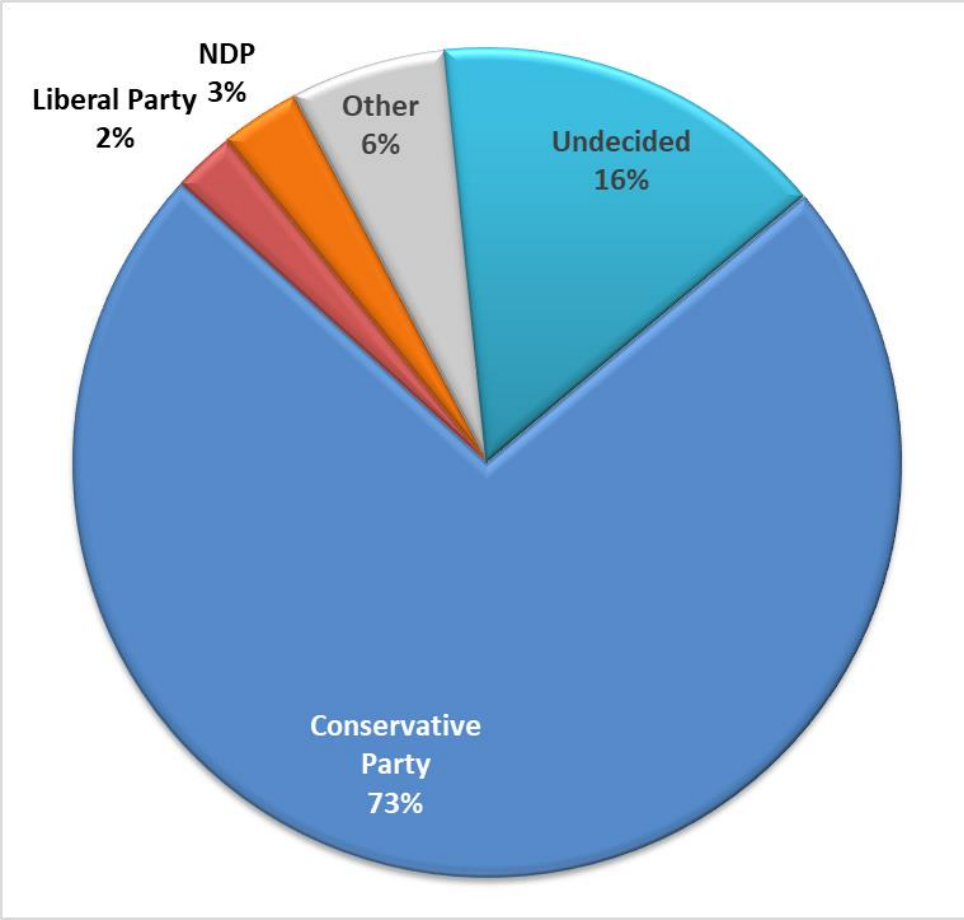
- Farmers in Western Canada overwhelmingly disagree, 72% strongly, with the 30% Fertilizer Emissions Reduction Target put forth by the Federal Government.
- Half of all farmers believe that current methods used to access fertilizer emission estimates ignore actual account farm practices while the other half either don't know or believe they do at least partially.
- About 80% of all farmers use synthetic fertilizer on their farm.
- Using the current method to measure fertilizer emissions (fertilizer use X emissions factor), farmers who use synthetic fertilizer, are very pessimistic they will achieve the stated target without affecting yields. About 80% say it is not achievable.
- Only half of farmers, who use synthetic fertilizer, are familiar with the 4R Nutrient Stewardship program.
- Once educated on the program, and its taken into account in measuring emissions, pessimism that targets can be achieved without affecting yields declines but still remains with a majority of farmers (57%).
- Despite reassurances the targets will remain voluntary, a significant majority (73%) of all farmers, including those who do use synthetic fertilizer, believe this federal government will mandate reductions.

The Political Connection

How farmers are thinking politically and how it impacts this issue

iFusion Research

Overwhelming support for the Federal Conservative Party among farmers in Western Canada



- Significantly higher support for conservatives in Alberta (80%) and lower in Saskatchewan (65%).
- Liberals have less than 4% support across provinces, however, the NDP has significantly higher, but still very low support, in Saskatchewan (7%).
- Although not charted, support for the Conservative party among just decided voters is 85%.

Huge split between Conservatives and Liberal/NDP on agreement on targets

	Conservative	Liberal/NDP
Strongly Agree	3%	48%
Somewhat Agree	3%	26%
Somewhat Disagree	11%	7%
Strongly Disagree	81%	24%
Neutral	2%	0%
Net Agree	7%	69%
Net Disagree	91%	31%

- The Federal government has committed Canada to a national fertilizer emissions reduction target of 30% by 2030, with 2020 as the baseline. Do you agree with this target?

Conservative Sample size = 397, Liberal/NDP = 29

Conservative farmers less likely to believe current method accounts for actual farm practices

	Conservative	Liberal/NDP
Yes	4%	25%
No	58%	25%
Partially	9%	27%
Don't Know	29%	24%

- Does the current method used by the federal government to estimate emissions from nitrogen fertilizer take into account actual farm practices?

Conservative Sample size = 397, Liberal/NDP = 29

No significant difference in synthetic fertilizer use or familiarity with 4R Nutrient Stewardship program

	Conservative	Liberal/NDP
Fertilizer Use	81%	82%
of which:		
Familiar with 4R Nutrient Stewardship	49%	58%

- Do you use synthetic fertilizer on your farm?
- Among those using fertilizer: Are you familiar with the 4R Nutrient Stewardship program promoted by the fertilizer industry?

For 4R Familiarity question: Conservative Sample size = 324, Liberal/NDP = 24

Most Conservatives believe targets are not achievable compared with most Liberals/NDP who say they are; however, sizable minority of them are skeptical

	Conservative	Liberal/NDP
Very Achievable	1%	25%
Somewhat Achievable	4%	38%
Not Achievable	87%	38%
Not Sure	7%	0%

- To calculate emissions, the federal government estimates fertilizer use by crop times a regional emissions factor which is mostly based on weather. The fertilizer use is based on provincial fertilizer shipments, recommended rates by crop and crop acres.
- If the current estimation method remains in place, how achievable is a fertilizer emissions reduction of 30% by 2030 without reducing yields?

Conservative Sample size = 397, Liberal/NDP = 29

Majority of Conservatives say "not achievable" and majority of Liberals/NDP say "achievable".

	Conservative	Liberal/NDP
Very Achievable	4%	22%
Somewhat Achievable	16%	45%
Not Achievable	62%	16%
Not Sure	18%	17%

- The 4R Nutrient Stewardship program is about using the right fertilizer, at the right rate, at the right time in the right place. It includes such things as soil testing, different formulations of fertilizer, fertilizer additives, variable rate technology, avoiding fall applications etc.
- If the federal government were to change the way they estimate fertilizer emissions by taking into account the 4R's of fertilizer application, how achievable is a fertilizer emissions reduction of 30% by 2030 without reducing yields?

Conservative Sample size = 324, Liberal/NDP = 24

Majority of Conservatives believe targets will be mandated if progress is not made.

	Conservative	Liberal/NDP
Yes	79%	28%
No	2%	48%
Not Sure	19%	24%

- According to recent statements by the federal Ag minister the 30% emissions reduction target is completely voluntary. If over the next 3 years, progress towards the target is not to the satisfaction of this government, do you believe they will force mandates such as caps on fertilizer use?

Conservative Sample size = 397, Liberal/NDP = 29

Summary of Political Information

- Overwhelming support for the Federal Conservative Party among farmers in Western Canada. (73% among all farmers and 85% among decided voters)
- Large split between Conservative farmers who disagree with the targets (91%) versus 69% of Liberal/NDP farmers who agree.
- Conservative farmers are less likely to believe the current method for estimating emissions takes into account actual farm practices.
- Using the current estimation method only 5% of Conservative farmers believe targets are at least somewhat achievable without impacting yield, compared with 62% of Liberals/NDP farmers.
- If 4R Nutrient Stewardship is taken into account in emissions, Conservatives belief that targets are at least somewhat achievable without impacting yield, rises to 20% compared with 67% of Liberals/NDP farmers.
- Large majority of Conservatives (79%) believe targets will be mandated if progress is not made compared to only 28% with Liberal/NDP supporters.

Detailed Tables (including political question)

Column N % Data is Weighted			PROVINCE				SOIL ZONE			
			Total	MB	SK	AB	Black	Brown	Dark Brown	Gray
	Sample Size	Unweighted	546	111	193	242	311	60	104	71
The Federal government has committed Canada to a national fertilizer emissions reduction target of 30% by 2030, with 2020 as the baseline. Do you agree with this target?	Strongly Agree	Column N %	7.4%	6.3%	11.4%	4.5%	10.0%	3.3%	4.9%	4.3%
	Somewhat Agree	Column N %	6.2%	6.3%	7.3%	5.4%	5.2%	6.7%	6.8%	9.4%
	Somewhat Disagree	Column N %	10.9%	9.0%	11.4%	11.2%	9.8%	8.4%	13.4%	13.8%
	Strongly Disagree	Column N %	72.3%	75.7%	67.4%	75.2%	71.7%	81.6%	70.2%	70.0%
	Neutral	Column N %	3.1%	2.7%	2.6%	3.7%	3.3%	0.0%	4.8%	2.5%
Does the current method used by the federal government to estimate emissions from nitrogen fertilizer take into account actual farm practices?	Yes	Column N %	5.6%	7.2%	4.7%	5.8%	7.5%	3.3%	1.9%	5.4%
	No	Column N %	52.5%	50.5%	51.8%	53.7%	52.4%	54.9%	58.7%	41.2%
	Partially	Column N %	10.1%	13.5%	10.9%	8.3%	10.0%	10.1%	11.5%	8.3%
	Don't Know	Column N %	31.8%	28.8%	32.6%	32.2%	30.1%	31.8%	27.8%	45.1%
Do you use synthetic fertilizer on your farm?	Yes	Column N %	80.7%	90.1%	78.8%	78.9%	81.2%	81.7%	81.7%	76.1%
	No	Column N %	19.3%	9.9%	21.2%	21.1%	18.8%	18.3%	18.3%	23.9%

Column N % Data is Weighted			PROVINCE				SOIL ZONE			
			Total	MB	SK	AB	Black	Brown	Dark Brown	Gray
	Sample Size	Unweighted	443	100	152	191	255	49	85	54
If the current estimation method remains in place, how achievable is a fertilizer emissions reduction of 30% by 2030 without reducing yields?	Very Achievable	Column N %	3.1%	4.0%	3.3%	2.6%	4.0%	0.0%	1.2%	5.2%
	Somewhat Achievable	Column N %	7.4%	5.0%	9.9%	6.3%	6.1%	10.3%	8.2%	9.0%
	Not Achievable	Column N %	81.5%	85.0%	78.9%	82.2%	82.8%	81.4%	87.1%	66.8%
	Not Sure	Column N %	8.0%	6.0%	7.9%	8.9%	7.1%	8.2%	3.5%	18.9%
Are you familiar with the 4R Nutrient Stewardship program promoted by the fertilizer industry?	Yes	Column N %	49.7%	54.0%	50.7%	47.1%	50.9%	38.8%	56.6%	43.1%
	No	Column N %	29.8%	25.0%	30.3%	31.4%	26.5%	42.9%	29.3%	33.2%
	Not Sure	Column N %	20.5%	21.0%	19.1%	21.5%	22.6%	18.3%	14.1%	23.7%
If the federal government were to change the way they estimate fertilizer emissions by taking into account the 4R's of fertilizer application, how achievable is a fertilizer emissions reduction of 30% by 2030 without reducing yields?	Very Achievable	Column N %	5.7%	8.0%	4.6%	5.8%	5.3%	4.1%	4.6%	10.9%
	Somewhat Achievable	Column N %	19.6%	21.0%	21.7%	17.3%	18.6%	20.6%	25.9%	12.8%
	Not Achievable	Column N %	57.5%	58.0%	55.9%	58.6%	57.2%	61.1%	56.5%	57.4%
	Not Sure	Column N %	17.2%	13.0%	17.8%	18.3%	18.9%	14.3%	13.0%	18.9%

Detailed Tables (including political question)

Column N % Data is Weighted			PROVINCE				SOIL ZONE			
			Total	MB	SK	AB	Black	Brown	Dark Brown	Gray
If over the next 3 years, progress towards the target is not to the satisfaction of this government, do you believe they will force mandates such as caps on fertilizer use? Press 1 for yes, press 2 for no or press 3 for not sure	Total	Unweighted	546	111	193	242	311	60	104	71
	Yes	Column N %	73.0%	67.6%	74.6%	73.6%	69.7%	86.6%	77.0%	68.5%
	No	Column N %	5.9%	5.4%	7.3%	5.0%	5.8%	3.4%	7.7%	5.8%
	Not Sure	Column N %	21.1%	27.0%	18.1%	21.5%	24.5%	10.0%	15.3%	25.7%
If a federal election was held today, which political party's candidate would you likely vote for?	Conservative Party	Column N %	72.9%	73.0%	64.6%	79.7%	73.7%	78.2%	71.9%	66.1%
	Liberal Party	Column N %	2.4%	1.8%	3.6%	1.7%	2.7%	1.7%	2.9%	1.5%
	NDP	Column N %	3.1%	0.9%	6.8%	0.8%	2.4%	3.4%	4.9%	3.0%
	Other	Column N %	6.1%	2.7%	9.4%	4.6%	5.7%	5.1%	7.8%	5.9%
	Undecided	Column N %	15.5%	21.6%	15.6%	13.3%	15.5%	11.7%	12.5%	23.5%

Who We Are

- iFusion Research is a Canadian marketing research firm focused on the agricultural industry.
- iFusion Research conducts numerous surveys with farmers across Canada each year employing on-line, phone (agent and automated) and executive interview methods.
- Greg Dunlop the owner of the firm develops the methodology, creates the questionnaires, conducts the data analysis, creates the reports and manages outside contractors to field the surveys.
- Greg has a Honours Bachelor of Science in Agriculture, majoring in Environmental Biology from the University of Guelph and an MBA from the Schulich School of Business, majoring in Marketing.
- Greg has extensive experience in the agricultural input industry and 20+ years experience in marketing research.