



IAOM L.A. – PANAMA 2020

THE JOURNEY OF WHEAT IN CANADA

ENSURING QUALITY AND QUANTITY OF YOUR AGRICULTURAL PRODUCTS

WHEN YOU NEED TO BE SURE

SGS



- Wheat breeding
 - Improve on agronomy, disease resistance and flour quality
 - Improve bake performance and demand
 - Industry expectations are strict and therefore takes time.
- Committee of industry experts evaluate new lines
 - Meet or exceed current standards for the wheat class?
 - Consistent performance over multiple years and growing regions?
 - Experts from supply chain vote to recommend or object.
- Quality focuses are:
 - Physical wheat characteristics
 - Milling performance
 - Dough/Gluten Strength
 - End-use quality
- If variety is recommended to be registered, Canadian Grain Commission confirms quality meets the assigned class.

WHEAT CLASSES IN CANADA

Wheat Class		% of wheat grown	Best for:
CWRS	CANADIAN WESTERN RED SPRING	68	Breads
CWAD	CANADIAN WESTERN AMBER DURUM	22	Pasta, couscous
CPS	CANADIAN PRAIRIE SPRING	4	Blending, flour yield
CNHR	CANADIAN NORTHERN HARD RED	2	Blending, cost?
CWSWS	CANADIAN WESTERN SOFT WHITE SPRING	2	Cakes, pastries
CWRW	CANADA WESTERN RED WINTER	1	Bread, steam buns
CWSP	CANADIAN WESTERN SPECIAL PURPOSE	1	High yielding
CWHWS	CANADIAN WESTERN HARD WHITE SPRING	-	"White" noodles, bread
CWES	CANADA WESTERN EXTRA STRONG	-	Blending



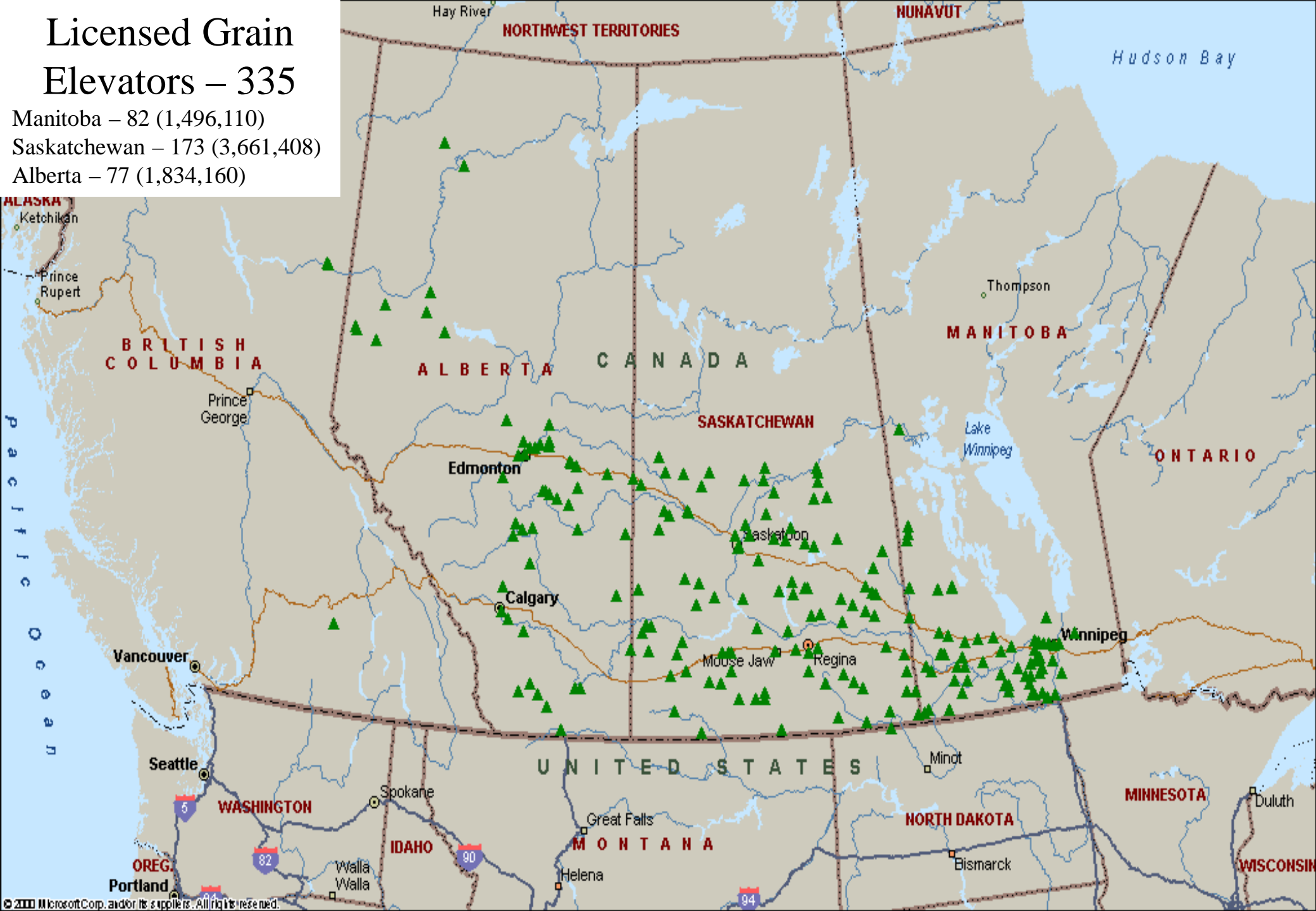
- Grain companies do new crop quality survey
 - What is quality change from last year?
 - What are differences regionally?
 - What can we assure for our customers?
- Wheat catchment area around each terminal assessed
 - Grade, quantity per grade, average protein content, disease, falling number, vomitoxin (DON)...
- Regional composites by grade and catchment formed for further quality assessment
 - Milling, flour physical properties, dough rheology, bake

Licensed Grain Elevators – 335

Manitoba – 82 (1,496,110)

Saskatchewan – 173 (3,661,408)

Alberta – 77 (1,834,160)



CROP QUALITY ASSESSMENTS

- WHY DO THEY INVEST THIS TIME AND EFFORT?
 - To understand what is available for their market
 - How to efficiently fill orders to meet quality specifications
 - Plan how to manage any challenges caused by wheat quality (ie. segregaton, drying)
- TO LET CUSTOMERS KNOW WHAT THEY CAN PROVIDE CLIENTS AND MAINTAIN UNIFORMITY UNTIL NEXT CROP

WHAT DO MILLERS EXPECT OF CANADIAN WHEAT?

- #3 Quality
- #2 Price
- #1 Uniformity/Consistency

- New crop quality survey is one way grain companies try to achieve quality expectation and uniformity
- What else?
 - **SGS ASSISTS THE GRAIN COMPANIES**







- All cereals and oilseeds
- Submitted and sampled by SGS
- Inland and Ports
- Certified to Canadian and International Standards



SGS CANADA PROVIDES HELP

- Assess quality and assign a grade to harvest samples
- Grade at different logistical points
 - Loading inland
 - Unloading at port
 - Loading vessels
- Grade and test incrementally (every 2000 MT min.) and report Real Time to shipper.
- Upon completion of vessel, recheck all increments to ensure accuracy; form composite and examine to satisfy client expectation
- “Certify” cargo shipment as 3rd party; neutral party

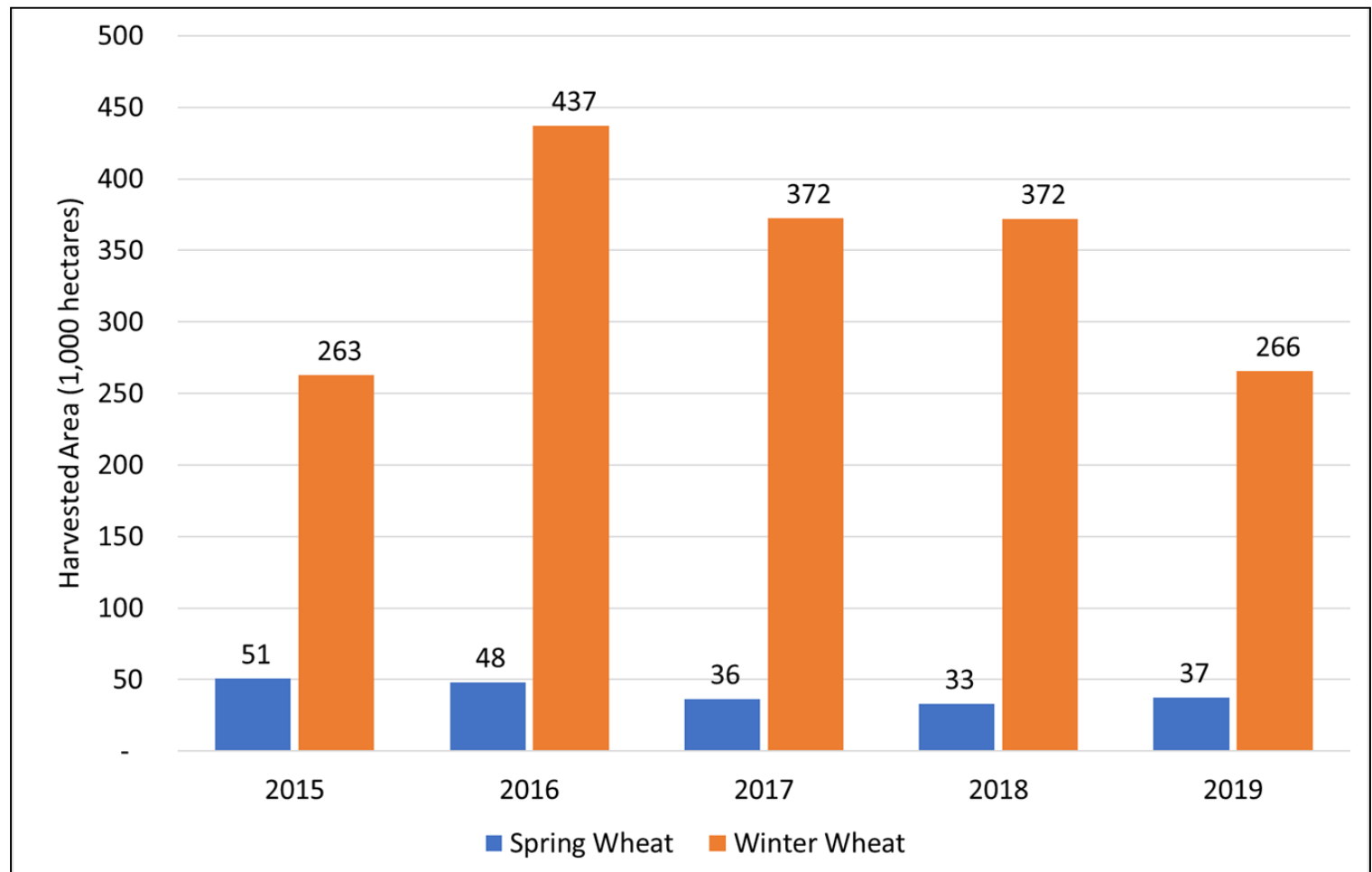
WHEAT EXPORTS TO LATIN AMERICA

COUNTRY	2018-19 CROP YEAR (MT)	2017-18 CROP YEAR (MT)
COLUMBIA	1236.4	1207.5
PERU	1232.4	1079.4
MEXICO	908	962.5
ECUADOR	754.7	518.4
CHILE	351.7	311.7
DOMINICAN REPUBLIC	240.9	207.5
BRAZIL	154.2	201.8
CUBA	139.6	139.6
COSTA ROCA	115.9	107.5
PUERTO RICO	73.3	70
TOTAL	5266 – 28.6%	4946.6 – 30.5%

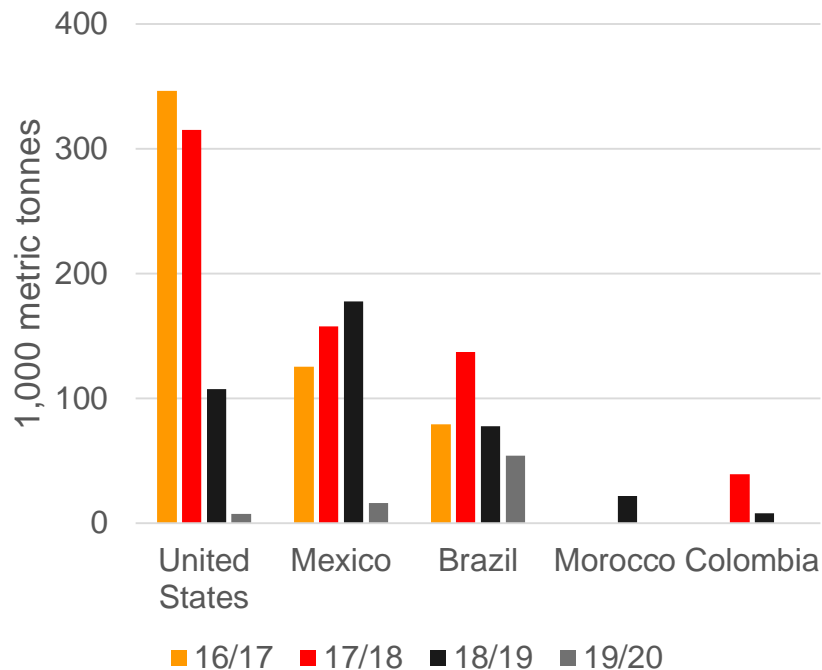
DURUM EXPORTS TO LATIN AMERICA

COUNTRY	2018-19 CROP YEAR (MT)	2017-18 CROP YEAR (MT)
PERU	132.8	181.1
HAITI	42	60.9
ECUADOR	36.7	13.5
CHILE	32.6	---
COSTA RICA	15.3	30.8
COLOMBIA	10.4	23.2
CUBA	8.4	12.2
GUATAMALA	8.2	---
MEXICO	8.1	12.8
VENEZUELA	5.4	41.9
TOTAL	299.9 – 6.6 %	376.4 – 9.5 %

EASTERN CANADA WHEAT PRODUCTION



Ontario Annual Wheat Exports:
Top 5 Countries (Jun/May
Crop Year)



SGS GRAINS ANALYTICAL TESTING LABORATORY



- The GATL is a result of a joint venture between SGS and the Grain Farmers of Ontario.
- Current services offered:
 - Grain and flour analysis:
 - Protein, falling number, gluten, starch damage...
 - Dough testing:
 - Farinograph, Alveograph, Extensograph, ...
 - Product Evaluation
 - Baking – bread, cookies
 - Noodles
 - Use industry approved testing methods
 - Ability to mill wheat samples into flour on a small scale but representative of large commercial mills.



- Wheat breeders:
 - Early generation varieties
- Farmers:
 - “How much is my crop worth?”
- Grain elevators:
 - New crop quality survey
 - Vessel composite analysis – milling and baking
- Flour mills:
 - New crop quality survey
 - Vessel composite analysis – milling and baking
- Bakeries:
 - Supplier verification of test results.

■ Different classes of wheat for different purposes:



- Soft Wheat flour – best for cakes, cookies, pie crusts, crackers.
- Hard Wheat Flour – best for breads, croissants
- Durum semolina – primarily for pasta

- Each class has unique traits; some better for certain products than others.
 - Differences between varieties in each class

TESTS PER WHEAT CLASS



Hard Wheat:

- Farinograph
- Extensograph
- Alveograph
- Starch Damage
- Wet Gluten and Gluten Index
- Bread baking

Soft Wheat:

- Amylograph – viscosity
- Alveograph
- Solvent Retention Capacity
- Cookie bake test

Durum:

- Alveograph
- Wet Gluten and Gluten Index
- Colour – brightness, yellowness, redness

- Industry puts more weight on certain tests depending on which class it is from – correlate better to end use quality; better to distinguish differences between samples

WHY TEST VESSEL SHIPMENTS



- Awareness of quality variations between shipments
 - Demand from millers for gluten quality measurements of wheat is increasing worldwide
- Quality can vary between holds of a ship
- Prepare to adapt to variations
 - Segregate quality variations at receiving
 - Modify flour ingredients to adjust strength (ie. ascorbic acid)
 - Inform clients of necessary baking adjustments
- For shipments originating from Canada, results can be available well before ship arrives to destination port.
- Composites obtained for grading would be divided down for milling and baking analysis.

HOW WE CAN HELP YOU

- SGS inspects over 80% of all export wheat shipments originating from Canada – representative samples of each compartment available.
- SGS can coordinate delivering the sample to the lab for milling and flour analysis.
- An test package can include those specific to your preferences.
- The final report would be emailed to you before the shipment arrives to your mill so you can plan accordingly.

2019 CROP – CWRS FLOUR QUALITY



	Grade: No. 1 and 2	
	Year: 2019	2018
CWRS QUALITY		
Wheat:		
Protein, %	14.4	13.9
Falling Number, sec.	381	389
Milling (Buhler Lab Mill):		
Yield – total products basis, %	76.9	75.7
Flour:		
Protein (14% M.B.), %	13.7	13.2
Wet Gluten, %	38.1	36.8
Gluten Index	86.2	88.7
Ash (14% M.B.), %	0.53	0.45

DOUGH RHEOLOGY AND BAKE TEST



Grade: Year:	No. 1 and 2	
	2019	2018
CWRS QUALITY		
Farinograph:		
Absorption, %	68	68.9
Dough Development Time, min.	7.3	7.8
Stability, min.	9.7	13.1
MTI, BU	31	22
Alveograph:		
P (height), mm	102	124
L (length), mm	120	109
P/L	0.86	1.1
W, 10 ⁻⁴ J,	401	451
Extensograph, 45 min.		
Maximum resistance (Rmax), BU	354	425
Extensibility (Length), mm	202	200
Area (cm ²)	96	110
Bake - Pup loaf:		
Bake Loaf Volume, cm ³	1038	1090
Bake Loaf Height, mm	107.4	118.4
Specific Volume, cm ³ /g	6.6	7.3


CONTACT US

Fraser Gilbert
Senior Strategic Development Manager

 + 1 604 562-5066

 Fraser.Gilbert@sgs.com

Paolo Santangelo
Commercial Manager

 +1 519 837 6000

 Paolo.Santangelo@sgs.com

FOR MORE INFORMATION



agriculture@sgs.com



www.sgs.com



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WHEN YOU NEED TO BE SURE

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