



AccumulatR™

Trial Results

Restrained AccumulatR Potato seed treatment trial results



restrain.io

AccumulatR™

Seed-for-Seed and Seed-for-Salad trial results

AccumulatR is a potato seed treatment for increasing seed efficiency using a combination of ethylene and temperature in store, applied through our treatment protocol for 120+ days prior to planting, to increase the number of stems per seed piece.

This results in more tubers per plant. In addition, AccumulatR treated seed encourages quicker, more uniform crop emergence which promotes a more even tuber size distribution. The combination of increased tuber numbers and a more even tuber size distribution results in a **higher marketable yield within the commercial seed (28–55mm) and salad (28–45mm) size fractions**, which is key to increasing potato seed efficiency.

For more than 20 years, AccumulatR has delivered proven results for potato growers **around the world**. This includes both growers producing seed for multiplication and ware salad potato growers, with proven results across more than 200 varieties.

Trials overview

The following trials were conducted to demonstrate the ability of the AccumulatR treatment protocol to enhance seed efficiency by increasing marketable yield within the commercial size specifications for the intended market.



Target markets:

Seed-for-Seed (28–55mm) and
Seed-for-Salad (28–45mm)



Crop duration:

80–90 growing days
(variety dependent)



Treatments:

Untreated seed, conventionally cold stored, versus AccumulatR treated seed stored under the treatment protocol for 120+ days prior to planting



Plant spacing:

25cm

AccumulatR™

Increased stems



Untreated



AccumulatR

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Agria



Processing

French Fry

Market


Seed-for-Seed
28-55mm

82 growing days


	Untreated	AccumulatR
Plants / ha:	45,714	45,714
Stems / ha:	167,619	209,514 (+25%)
Tubers / ha:	253,333	320,000 (+26%)
Marketable tubers / ha:	155,556	257,778 (+66%)
50% emergence date:	02/06/2025	30/05/2025 (-3 days)
Yield:	24.29 t/ha	25.64 t/ha
Marketable yield:	13.36 t/ha	19.03 t/ha (+5.67t)
Replantable ha:	5.41 ha	8.09 ha (+2.68 ha)

+42% Increase in marketable yield t/ha

Austin



Processing
Crisping/Chip

Market



Seed-for-Seed
28–55mm



82 growing days



	Untreated	AccumulatR
Plants / ha:	45,714	45,714
Stems / ha:	72,381	194,286 (+168%)
Tubers / ha:	328,889	426,667 (+30%)
Marketable tubers / ha:	177,778	395,556 (+123%)
50% emergence date:	01/06/2025	29/05/2025 (-3 days)
Yield:	31.12 t/ha	23.11 t/ha
Marketable yield:	11.02 t/ha	21.03 t/ha (+10.01t)

+91% Increase in marketable yield t/ha

Atlantic



Export
Fresh

Market



Seed-for-Seed
28–55mm



	Untreated	AccumulatR
Plants / ha:	36,454	36,454
Stems / ha:	160,397	174,978 (+9%)
Tubers / ha:	386,410	488,481 (+26%)
Yield:	34.54 t/ha	34.23 t/ha
Marketable yield:	19.02 t/ha	19.64 t/ha (0.62t)

+3% Increase in marketable yield t/ha

Babylon



Processing

French Fry



Processing

Crisping/Chip

Market



Seed-for-Seed
28–55mm



	Untreated	AccumulatR
Plants / ha:	41,380	41,380
Stems / ha:	88,671	177,343 (+100%)
Tubers / ha:	310,586	538,058 (+73%)
Yield:	30.62 t/ha	34.99 t/ha
Marketable yield:	15.32 t/ha	32.15 t/ha (+16.83t)

110% Increase in marketable yield t/ha

Brooke



Processing
Crisping

Market



Seed-for-Seed
28–55mm



98 growing days



	Untreated	AccumulatR
Plants / ha:	41,380	41,380
Stems / ha:	76,849	91,627 (+19%)
Tubers / ha:	358,705	489,939 (+37%)
Marketable tubers / ha:	166,229	314,961 (+89%)
Yield:	37.60 t/ha	39.61 t/ha
Marketable yield:	9.66 t/ha	19.32 t/ha (+9.65t)

+100% Increase in marketable yield t/ha

Brooke



Processing
Crisping

Market



Seed-for-Seed
28–55mm



	Untreated	AccumulatR
Plants / ha:	36,454	36,454
Stems / ha:	138,524	160,397 (+16%)
Tubers / ha:	590,551	743,657 (+26%)
Yield:	20.93 t/ha	36.86t/ha
Marketable yield:	17.27 t/ha	34.48 t/ha (+17.21t)

+100% Increase in marketable yield t/ha

Buffalo



Fresh
Table

Market



Seed-for-Seed
28-55mm



	Untreated	AccumulatR
Plants / ha:	36,454	36,454
Stems / ha:	72,908	174,978 (+140%)
Tubers / ha:	612,423	772,820 (+26%)
Yield:	37.56 t/ha	35.80 t/ha
Marketable yield:	21.14 t/ha	28.87 t/ha (+7.83t)

+37% Increase in marketable yield t/ha

Cara



Export
Fresh

Market



Seed-for-Seed
28–55mm



83 growing days



	Untreated	AccumulatR
Plants / ha:	46,869	46,869
Stems / ha:	140,607	160,136 (+14%)
Tubers / ha:	511,655	566,335 (+11%)
Marketable tubers / ha:	406,199	519,466 (+28%)
50% emergence date:	25/05/2026	24/05/2026 (–1 day)
Yield:	24.51 t/ha	27.77 t/ha
Marketable yield:	21.09 t/ha	26.48 t/ha (+5.39t)
Replantable ha:	10.20ha	12.85ha (+2.65ha)

+26% Increase in marketable yield t/ha

Cara



Export
Fresh

Market



Seed-for-Seed
28–55mm



90 growing days



	Untreated	AccumulatrR
Plants / ha:	32,165	32,165
Stems / ha:	122,227	141,126 (+16%)
Tubers / ha:	334,517	495,342 (+48%)
Marketable tubers / ha:	302,352	443,878 (+47%)
Yield:	14.43 t/ha	20.73 t/ha
Marketable yield:	14.17 t/ha	20.46 t/ha (+6.29t)
Replantable ha:	6.4 ha	9.36 ha (+2.96) ha

+44% Increase in marketable yield t/ha

Cara



Export
Fresh

Market



Seed-for-Seed
28–55mm



	Untreated	AccumulatR
Plants / ha:	36,454	36,454
Stems / ha:	174,978	196,850 (+13%)
Tubers / ha:	583,260	692,622 (+19%)
Yield:	21.97 t/ha	28.39 t/ha
Marketable yield:	21.33 t/ha	26.54 t/ha (+5.21t)

+24% Increase in marketable yield t/ha

Caruso



Processing
Crisping

Market



Seed-for-Seed
28–55mm



	Untreated	AccumulatR
Plants / ha:	36,454	36,454
Stems / ha:	123,943	182,269 (+47%)
Tubers / ha:	430,155	627,005 (+46%)
Yield:	40.12 t/ha	41.03 t/ha
Marketable yield:	17.02 t/ha	31.00 t/ha (+13.98t)

+82% Increase in marketable yield t/ha

Edison



Processing

French Fry



Fresh

Table

Market



Seed-for-Seed

28-55mm



82 growing days



	Untreated	AccumulatR
Plants / ha:	45,714	45,714
Stems / ha:	106,667	129,524 (+32%)
Tubers / ha:	324,444	351,111 (+8%)
Marketable tubers / ha:	186,667	288,889 (+55%)
50% emergence date:	29/05/2025	28/05/2025 (-1 day)
Yield:	28.07 t/ha	30.85 t/ha
Marketable yield:	12.23 t/ha	22.10t/ha (+9.87t)
Replantable ha:	4.94 ha	8.37 ha (+3.43)

+81% Increase in marketable yield t/ha

Eurostar



Processing

French Fry



Fresh

Table

Market



Seed-for-Seed

28–55mm



	Untreated	AccumulatR
Plants / ha:	36,454	36,454
Stems / ha:	131,234	230,971 (+76%)
Tubers / ha:	452,027	736,366 (+63%)
Yield:	35.94 t/ha	41.81 t/ha
Marketable yield:	24.85 t/ha	41.03t/ha (+16.17t)

+65% Increase in marketable yield t/ha

Fontane



Processing

French Fry

Market


Seed-for-Seed
28-55mm

89 growing days


	Untreated	AccumulatR
Plants / ha:	45,714	45,714
Stems / ha:	125,714	175,238 (+39%)
Tubers / ha:	297,778	511,111 (+72%)
Marketable tubers / ha:	240,000	382,222 (+59%)
50% emergence date:	29/05/2025	28/05/2025 (-1 day)
Yield:	24.07 t/ha	38.50 t/ha
Marketable yield:	15.62 t/ha	21.31 t/ha (+5.69t)
Replantable ha:	7.01 ha	10.08 ha (+3.07)

+36% Increase in marketable yield t/ha

Hermes



Processing
Crisping/Chip



Export

Market



Seed-for-Seed
28–55mm



83 growing days



	Untreated	AccumulatR
Plants / ha:	46,869	46,869
Stems / ha:	132,796	148,419 (+12%)
Tubers / ha:	546,807	644,451 (+18%)
Marketable tubers / ha:	460,880	554,618 (+20%)
50% emergence date:	25/05/2026	24/05/2026 (–1 day)
Yield:	33.19 t/ha	53.70 t/ha
Marketable yield:	28.34 t/ha	47.34 t/ha (+19.00t)
Replantable ha:	10.94ha	17.85ha (+6.91ha)

+67% Increase in marketable yield t/ha

Hermes



Processing
Crisping/Chip



Export

Market



Seed-for-Seed
28–55mm



	Untreated	AccumulatR
Plants / ha:	41,380	41,380
Stems / ha:	64,807	97,210 (+50%)
Tubers / ha:	293,088	433,071 (+48%)
Marketable tubers / ha:	196,850	336,833 (+71%)
Yield:	23.08 t/ha	31.81 t/ha
Marketable yield:	11.75 t/ha	22.29 t/ha (+10.54t)

90% Increase in marketable yield t/ha

Innovator



Processing
French Fry

Market



Seed-for-Seed
28–55mm



83 growing days



	Untreated	AccumulatR
Plants / ha:	46,869	46,869
Stems / ha:	160,136	261,686 (+63%)
Tubers / ha:	312,461	511,655 (+64%)
Marketable tubers / ha:	191,382	382,765 (+100%)
50% emergence date:	26/05/2026	23/05/2026 (–3 days)
Yield:	28.82 t/ha	34.52 t/ha
Marketable yield:	15.04 t/ha	26.01 t/ha (+10.97t)
Replantable ha:	9.46ha	15.84ha (+6.38ha)

+73% Increase in marketable yield t/ha

Innovator



Processing

French Fry

Market


Seed-for-Seed
28–55mm

82 growing days


	Untreated	AccumulatR
Plants / ha:	45,714	45,714
Stems / ha:	167,619	209,514 (+25%)
Tubers / ha:	271,111	342,222 (+26%)
Marketable tubers / ha:	208,889	244,444 (+17%)
50% emergence date:	25/05/2025	21/05/2025 (–4 days)
Yield:	32.16 t/ha	38.65 t/ha
Marketable yield:	18.94 t/ha	21.16 t/ha (+2.22t)
Replantable ha:	6.79 ha	7.87 ha (+1.08)

+12% Increase in marketable yield t/ha

Innovator



Processing

French Fry

Market


Seed-for-Seed
28–55mm


	Untreated	Accumulatr
Plants / ha:	36,454	36,454
Stems / ha:	153,106	211,432 (+38%)
Tubers / ha:	430,155	612,423 (+42%)
Yield:	33.49 t/ha	36.76 t/ha
Marketable yield:	23.38 t/ha	29.34 t/ha (+5.96t)

+25% Increase in marketable yield t/ha

King Russet



Processing
French Fry

Market



Seed-for-Seed
28–55mm



82 growing days



	Untreated	AccumulatR
Plants / ha:	45,714	45,714
Stems / ha:	133,333	163,810 (+23%)
Tubers / ha:	288,889	346,667 (+20%)
Marketable tubers / ha:	208,889	293,333 (+40%)
50% emergence date:	24/05/2025	26/05/2025 (+2 days)
Yield:	31.65 t/ha	34.65 t/ha
Marketable yield:	16.16 t/ha	24.93 t/ha (+8.77t)
Replantable ha:	6.53 ha	9.47 (+2.94)

+54% Increase in marketable yield t/ha

King Russet



Processing
French Fry

Market



Seed-for-Seed
28-55mm



	Untreated	AccumulatR
Plants / ha:	36,454	36,454
Stems / ha:	138,524	247,886 (+79%)
Tubers / ha:	211,432	430,155 (+103%)
Yield:	21.87 t/ha	28.57 t/ha
Marketable yield:	10.48 t/ha	28.48 t/ha (+18.01t)

+172% Increase in marketable yield t/ha

Lady Rosetta



Processing
Crisping

Market



Seed-for-Seed
28-55mm



83 growing days



	Untreated	AccumulatR
Plants / ha:	46,869	46,869
Stems / ha:	128,890	140,607 (+9%)
Tubers / ha:	550,712	605,393 (+10%)
Marketable tubers / ha:	496,032	542,901 (+9%)
50% emergence date:	25/05/2026	25/05/2026
Yield:	20.99 t/ha	23.20 t/ha
Marketable yield:	18.88 t/ha	21.47 t/ha (+2.59t)
Replantable ha:	8.95ha	10.14ha (+1.19ha)

+14% Increase in marketable yield t/ha

Lady Rosetta



Processing
Crisping

Market



Seed-for-Seed
28-55mm



98 growing days



	Untreated	Accumulatr
Plants / ha:	41,380	41,380
Stems / ha:	115,273	186,210 (+62%)
Tubers / ha:	524,934	800,525 (+53%)
Marketable tubers / ha:	419,948	695,538 (+66%)
Yield:	33.81 t/ha	47.41 t/ha
Marketable yield:	24.25 t/ha	39.34 t/ha (+15.09t)

+62% Increase in marketable yield t/ha

Linus



Processing
French Fry

Market



Seed-for-Seed
28–55mm



82 growing days



	Untreated	AccumulatR
Plants / ha:	45,714	45,714
Stems / ha:	72,381	194,286 (+168%)
Tubers / ha:	288,889	484,444 (+68%)
Marketable tubers / ha:	173,333	324,444 (+87%)
50% emergence date:	18/05/2025 2cm sprout at planting	30/05/2025
Yield:	18.16 t/ha	28.44 t/ha
Marketable yield:	10.11 t/ha	21.59 t/ha (+11.48t)

+113% Increase in marketable yield t/ha

Lugano



Processing

French Fry

Market


Seed-for-Seed
 28–55mm


	Untreated	AccumulatR
Plants / ha:	41,380	41,380
Stems / ha:	70,937	153,697 (+117%)
Tubers / ha:	341,207	428,696 (+26%)
Marketable tubers / ha:	241,348	380,577 (+78%)
Yield:	28.62 t/ha	31.59 t/ha
Marketable yield:	14.90 t/ha	29.24 t/ha (+14.34t)

+96% Increase in marketable yield t/ha

Lugano



Processing

French Fry

Market


Seed-for-Seed
28-55mm

82 growing days


	Untreated	AccumulatR
Plants / ha:	45,714	45,714
Stems / ha:	99,048	125,714 (+27%)
Tubers / ha:	240,000	293,333 (+22%)
Marketable tubers / ha:	142,222	182,222 (+28%)
50% emergence date:	01/06/2025	30/05/2025 (-2 days)
Yield:	23.78 t/ha	30.68 t/ha
Marketable yield:	10.46 t/ha	15.26 t/ha (+4.80t)

+46% Increase in marketable yield t/ha

Lugano



Processing
French Fry

Market



Seed-for-Seed
28–55mm



	Untreated	AccumulatR
Plants / ha:	36,454	36,454
Stems / ha:	94,780	174,978 (+85%)
Tubers / ha:	335,375	379,119 (+13%)
Yield:	41.79 t/ha	34.91 t/ha
Marketable yield:	12.05 t/ha	13.05 t/ha (+3.63t)

+108% Increase in marketable yield t/ha

Markies



Processing

French Fry

Market



Seed-for-Seed
28–55mm



89 growing days



	Untreated	AccumulatR
Plants / ha:	45,714	45,714
Stems / ha:	118,095	152,381 (+43%)
Tubers / ha:	293,333	368,889 (+26%)
Marketable tubers / ha:	222,222	271,111 (+22%)
50% emergence date:	27/05/2025	26/05/2025 (-1 day)
Yield:	24.76 t/ha	31.58 t/ha
Marketable yield:	15.41 t/ha	19.04 t/ha (+3.63t)
Replantable ha:	7.79 ha	8.78 (+0.99)

+24% Increase in marketable yield t/ha

Nectar



Fresh
Table

Market



Seed-for-Seed
28-55mm



	Untreated	AccumulatR
Plants / ha:	36,454	36,454
Stems / ha:	306,212	349,956 (+14%)
Tubers / ha:	838,437	925,926 (+10%)
Yield:	35.21 t/ha	33.94 t/ha
Marketable yield:	30.81 t/ha	31.05 t/ha (+0.24t)

+1% Increase in marketable yield t/ha

Norman



Processing
Crisping/Chip

Market



Seed-for-Seed
28–55mm



82 growing days



	Untreated	AccumulatR
Plants / ha:	45,714	45,714
Stems / ha:	118,095	160,000 (+35%)
Tubers / ha:	333,333	404,444 (+21%)
Marketable tubers / ha:	160,000	177,778 (+11%)
50% emergence date:	26/05/2025	22/05/2025 (–4 days)
Yield:	36.07 t/ha	42.24 t/ha
Marketable yield:	9.79 t/ha	11.61 t/ha (+1.82t)

+19% Increase in marketable yield t/ha

Opal



Processing
Crisping/Chip

Market



Seed-for-Seed
28–55mm



	Untreated	AccumulatR
Plants / ha:	36,454	36,454
Stems / ha:	131,234	262,467 (+100%)
Tubers / ha:	415,573	583,260 (+40%)
Yield:	31.11 t/ha	33.30 t/ha
Marketable yield:	17.22 t/ha	27.40 t/ha (+10.18%t)

+59% Increase in marketable yield t/ha

Royal



Processing
French Fry

Market



Seed-for-Seed
28–55mm



	Untreated	AccumulatR
Plants / ha:	36,454	36,454
Stems / ha:	153,106	211,432 (+38%)
Tubers / ha:	473,889	575,970 (+22%)
Yield:	39.33 t/ha	34.65 t/ha
Marketable yield:	23.59 t/ha	23.44 t/ha (-0.15%t)

-1% Increase in marketable yield t/ha

Sagitta



Processing
French Fry



Fresh

Market



Seed-for-Seed
28–55mm



78 growing days



	Untreated	AccumulatR
Plants / ha:	58,326	58,326
Stems / ha:	455,672	608,778 (+34%)
Tubers / ha:	459,318	634,296 (+38%)
Marketable tubers / ha:	419,218	550,452 (+31%)
Yield:	18.51 t/ha	24.84 t/ha
Marketable yield:	18.11 t/ha	23.53 t/ha (+5.42t)
Replantable ha:	12.56 ha	15.25 ha (+2.69 ha)

+30% Increase in marketable yield t/ha

Saratoga Russet



Processing
French Fry

Market



Seed-for-Seed
28–55mm



89 growing days



	Untreated	AccumulatR
Plants / ha:	45,714	45,714
Stems / ha:	140,952	129,524 (–8%)
Tubers / ha:	297,778	297,778 (0%)
Marketable tubers / ha:	168,889	200,000 (+18%)
50% emergence date:	31/05/2025	31/05/2025
Yield:	28.96 t/ha	31.56 t/ha
Marketable yield:	14.90 t/ha	16.99 t/ha (+2.09t)

+14% Increase in marketable yield t/ha

SH C 2030



Processing
Crisping/Chip

Market



Seed-for-Seed
28–55mm



82 growing days



	Untreated	AccumulatR
Plants / ha:	45,714	45,714
Stems / ha:	171,429	182,857 (+7%)
Tubers / ha:	511,111	586,667 (+15%)
Marketable tubers / ha:	440,000	484,444 (+10%)
50% emergence date:	28/05/2025	28/05/2025
Yield:	32.64 t/ha	36.45 t/ha
Marketable yield:	25.95 t/ha	27.03 t/ha (+1.08t)

+4% Increase in marketable yield t/ha

Twister


Fresh

Table

Market


Seed-for-Seed
28-55mm

80 growing days


	Untreated	AccumulatR
Plants / ha:	37,037	37,037
Stems / ha:	259,259	356,481 (+38%)
Tubers / ha:	768,519	1,032,407 (+34%)
Marketable tubers / ha:	662,037	986,111 (+49%)
Yield:	40.65 t/ha	47.55 t/ha
Marketable yield:	34.72 t/ha	47.50 t/ha (+12.78t)

+37% Increase in marketable yield t/ha

Baby Lou

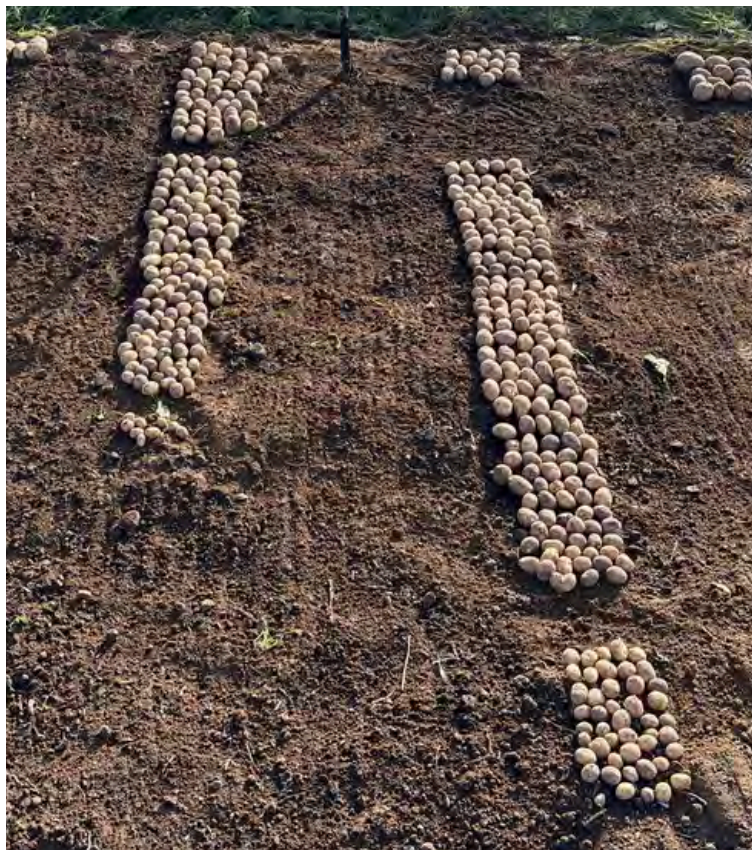


Salad

Market



Seed-for-Salad
28-45mm



	Untreated	AccumulatR
Plants / ha:	36,454	36,454
Stems / ha:	196,850	335,375 (+70%)
Tubers / ha:	1,210,265	1,691,455 (+40%)
Yield:	58.87 t/ha	57.25 t/ha
Marketable yield:	30.69 t/ha	45.49 t/ha (+14.79 t's)

+48% Increase in marketable yield t/ha

Charlotte



Salad

Market



Seed-for-Salad
28-45mm



88 growing days



	Untreated	AccumulatR
Plants / ha:	47,291	47,291
Stems / ha:	112,317	254,191 (+105%)
Tubers / ha:	568,679	787,402 (+38%)
Marketable tubers / ha:	428,696	717,410 (+67%)
Yield:	30.81 t/ha	36.34 t/ha
Marketable yield:	22.21 t/ha	34.32 t/ha (+12.11 t's)

+55% Increase in marketable yield t/ha

Maris Peer



Market



Seed-for-Salad
28-45mm



88 growing days



	Untreated	AccumulatR
Plants / ha:	47,291	47,291
Stems / ha:	112,317	162,564 (+45%)
Tubers / ha:	568,679	923,010 (+62%)
Marketable tubers / ha:	301,837	695,538 (+130%)
Yield:	30.91 t/ha	42.55 t/ha
Marketable yield:	10.88 t/ha	26.71 t/ha (+15.84 t's)

+146% Increase in marketable yield t/ha

Maris Peer



Market



Seed-for-Salad
28-45mm



83 growing days



	Untreated	Accumulatr
Plants / ha:	46,869	46,869
Stems / ha:	171,854	214,817 (+25%)
Tubers / ha:	636,639	999,875 (+57%)
Marketable tubers / ha:	578,053	874,891 (+51%)
50% emergence date:	25/05/2026	23/05/2026 (-2 days)
Yield:	30.38 t/ha	66.17 t/ha
Marketable yield:	26.78 t/ha	64.51 t/ha (+37.73t)

+141% Increase in marketable yield t/ha



Restrained



Contact Restrained

For any details on varieties not listed.

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