

H₂Pro[®]

Researched, formulated and
produced in-house by **ΔICL**





Penetrant wetting agent for use on a wide range of turf types to assist with water movement through the soil profile and to form a part of an autumn ITM programme.

H₂Pro[®]
FlowSmart

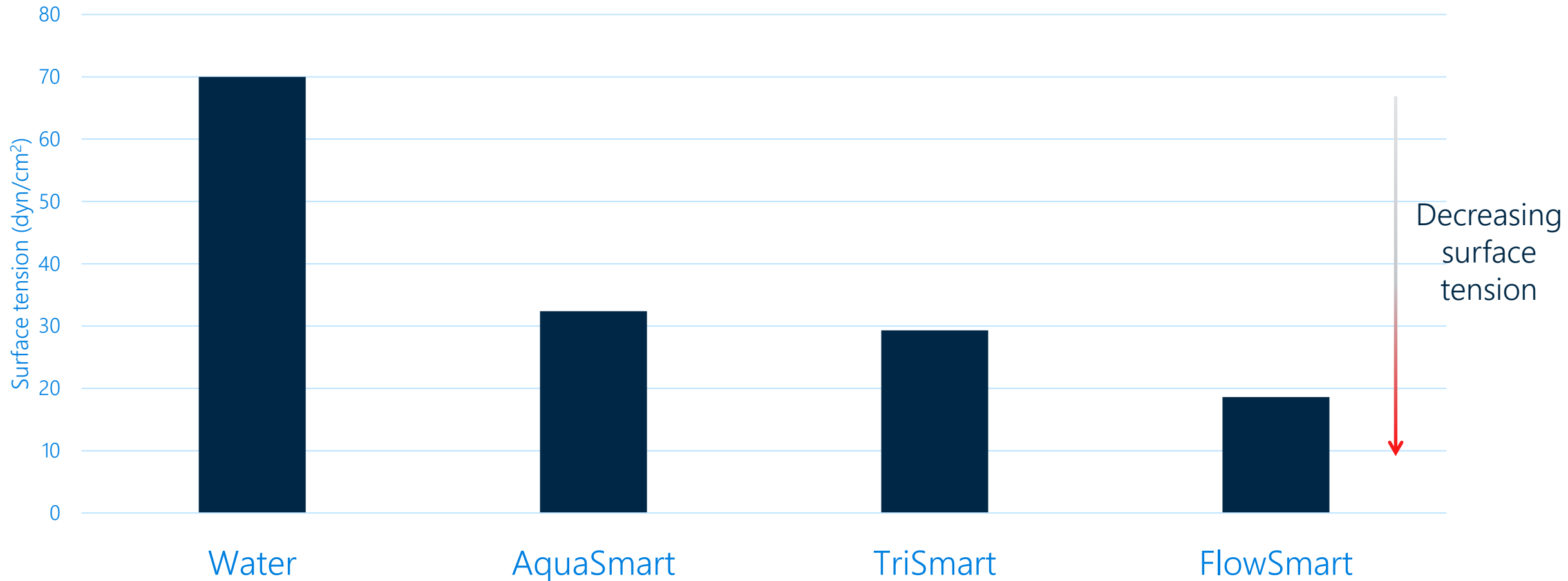


Hi2Pro[®] FlowSmart

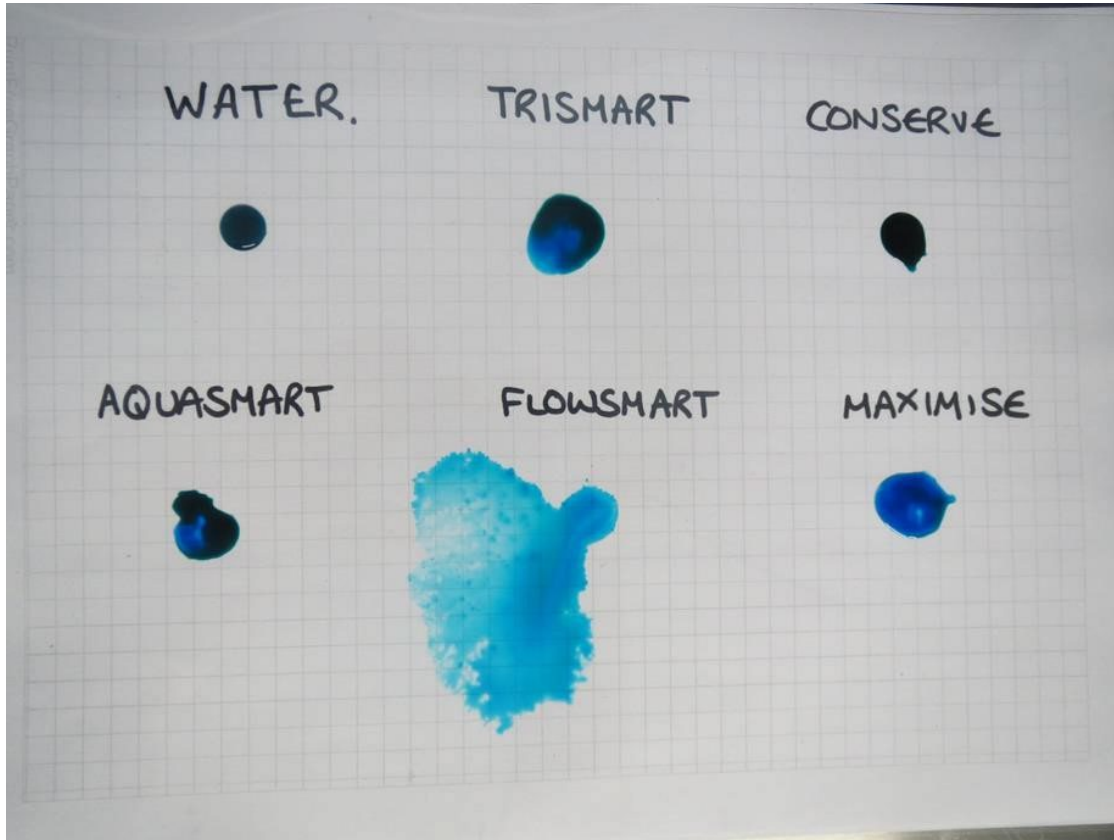
- Reduces the surface tension of water to help it move through the soil profile
- Forms an important part of an autumn ITM programme
- Turf Rewards



Reducing surface tension of water



Surface tension is
measured in dyns/cm²



Important laboratory test comparisons

	Refractive Index	Surface Tension / Dynes	Spread - 20 µL droplet / mm2
FlowSmart @ 10L/ha	66.0%	20.555	2600
FlowSmart @ 5L/ha		20.434	2528
FlowSmart @ 2L/ha		20.368	480
AquaSmart @ 5L/ha	63.0%	31.684	77.2
Penetrant X @ 4L/ha	16.1%	27.27	68
Penetrant X @ 2L/ha		26.074	52.4

Refractive Index gives a rough indication of the amount of active ingredients in the formulation.

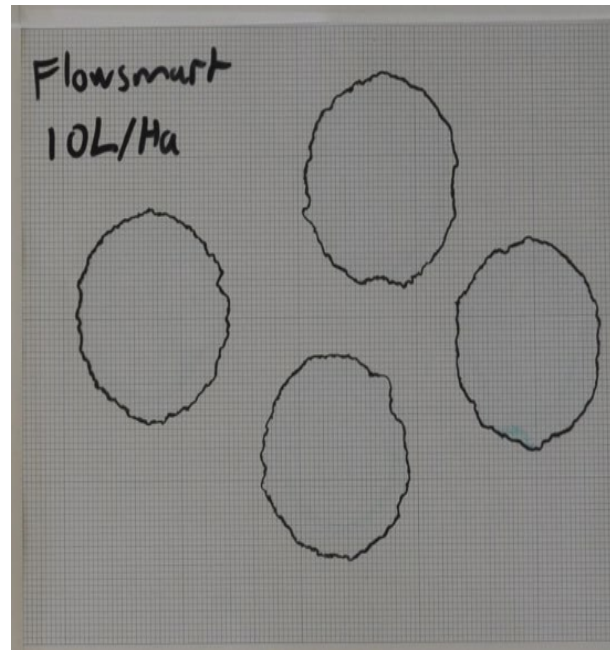
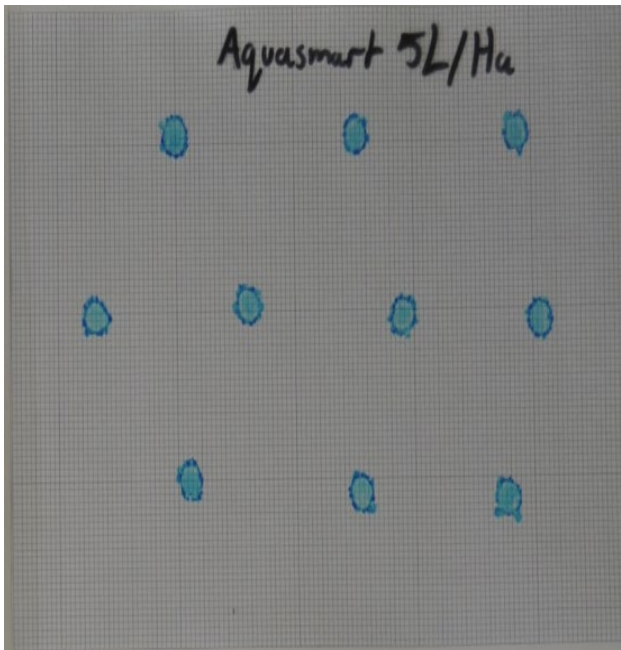
Higher RI = more actives

Surface Tension: measured to indicate the reduction in surface tension of the solution (measured in dynes). The energy required to pull a metal ring from the surface of the liquid – very sensitive. Lower = better for a penetrant

Spread : as simple as it sounds – see next page

Relative spreading ability

Draw a line around the limit of spread





Penetrants

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7.5mL water or product at application rate applied to each box, Photograph taken immediately after water/product addition



Photograph taken 3 minutes after water addition



Vertical movement of water in USGA rootzone

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Untreated turf cores taken from the JCB turf nursery with a hole cutter and placed into 112mm diameter drainpipes cut in half

FlowSmart was applied to half of the turf cores @ 10l/ha

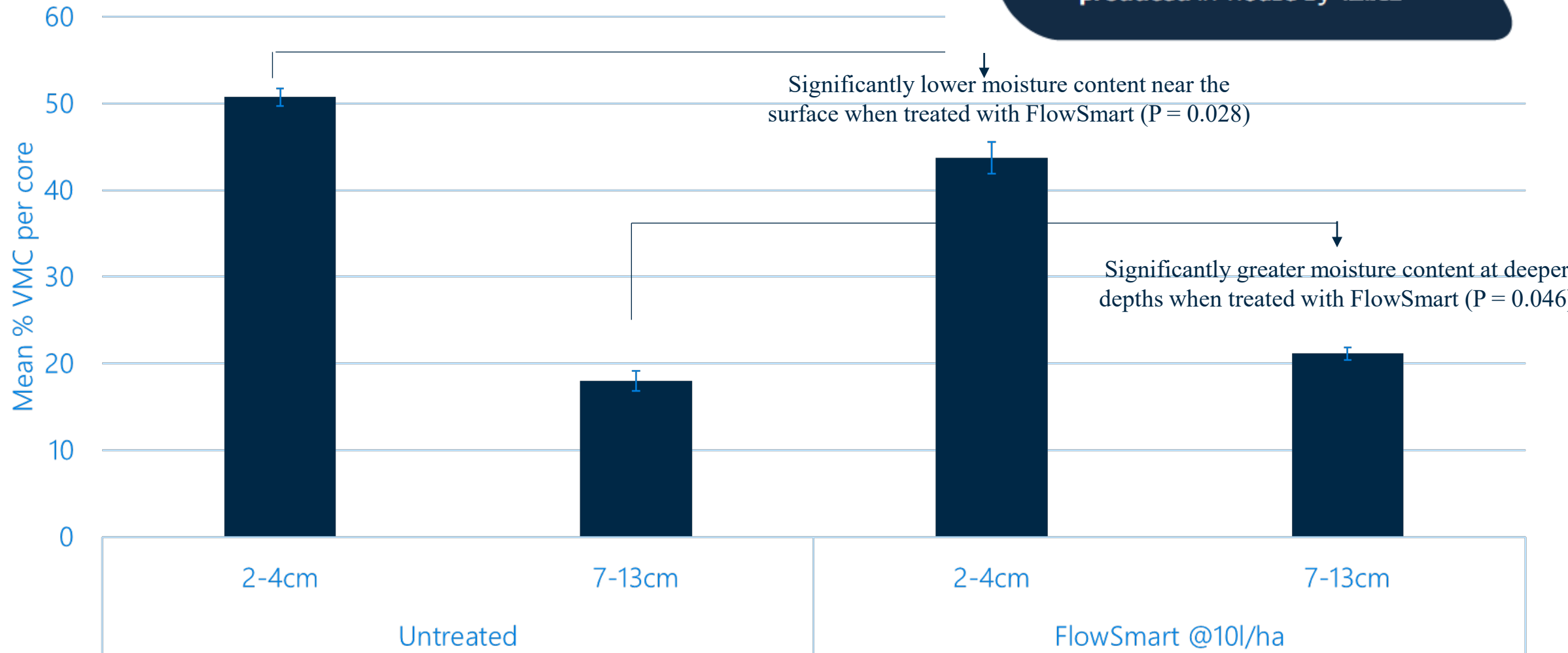


5mm irrigation was applied to each core
(some cores were left untreated and unirrigated to allow comparison of before and after
% VMC)

Cores were left for 1 hour post irrigation

Drain pipes were then carefully unsealed and moisture reading taken at 3 x
different depths





Flowsmart applications have clearly demonstrated a significant ($P < 0.05$) reduction in moisture content at the surface 2-4cm of golf green turf

Flowsmart applications have clearly demonstrated significantly increased water movement through a sand-based rootzone improving turf drainage

Flowmmart helps water penetrate quickly



No simulated
rainfall event



Untreated
5mm simulated rainfall event



Flowsmart @ 10l/ha then
5mm simulated rainfall event

2018 Autumn ITM Trial

Poa-dominated surface on a drained sand loam rootzone



Treat No	Products	Applications
1	Control	n/a
2	K-STEP	1 app
	Instrata Elite	Start
	Instrata Elite	4 weeks
	Medallion TL	8 weeks
3	Ryder + Stressbuster	Monthly
4	K-STEP	Start
	FlowSmart + Stressbuster	Monthly
	DewSmart	Monthly
	Effect Iron	Curative
5	Invigorator Plus	Start
	Invigorator Plus	4 weeks
	Pro Iron	8 weeks
6	Invigorator Plus	Start
	Invigorator Plus	4 weeks
	FlowSmart	Monthly
	DewSmart	Monthly
9	K-STEP	Monthly
10	Invigorator Plus	Start
	Stressbuster	Monthly

2018 ITM Trial

Treatments

ITM PLAN

Sierraform GT K Step 6-0-27

- Applied week 1 only @ 25 g/ m²
- (15 kg/ha N and 68 kg /ha K

Tank-mix

- H2Pro FlowSmart 10L/ha
- Vitalnova Stressbuster 30L/ha in 600L water
- Applied every 4 weeks

H2Pro DewSmart 10L/ha

- In 400L water
- Applied 4 x through Oct/Nov/Dec

Greenmaster Effect Iron 30L/ha

- In 400L water
- Applied 2x **correct timing**

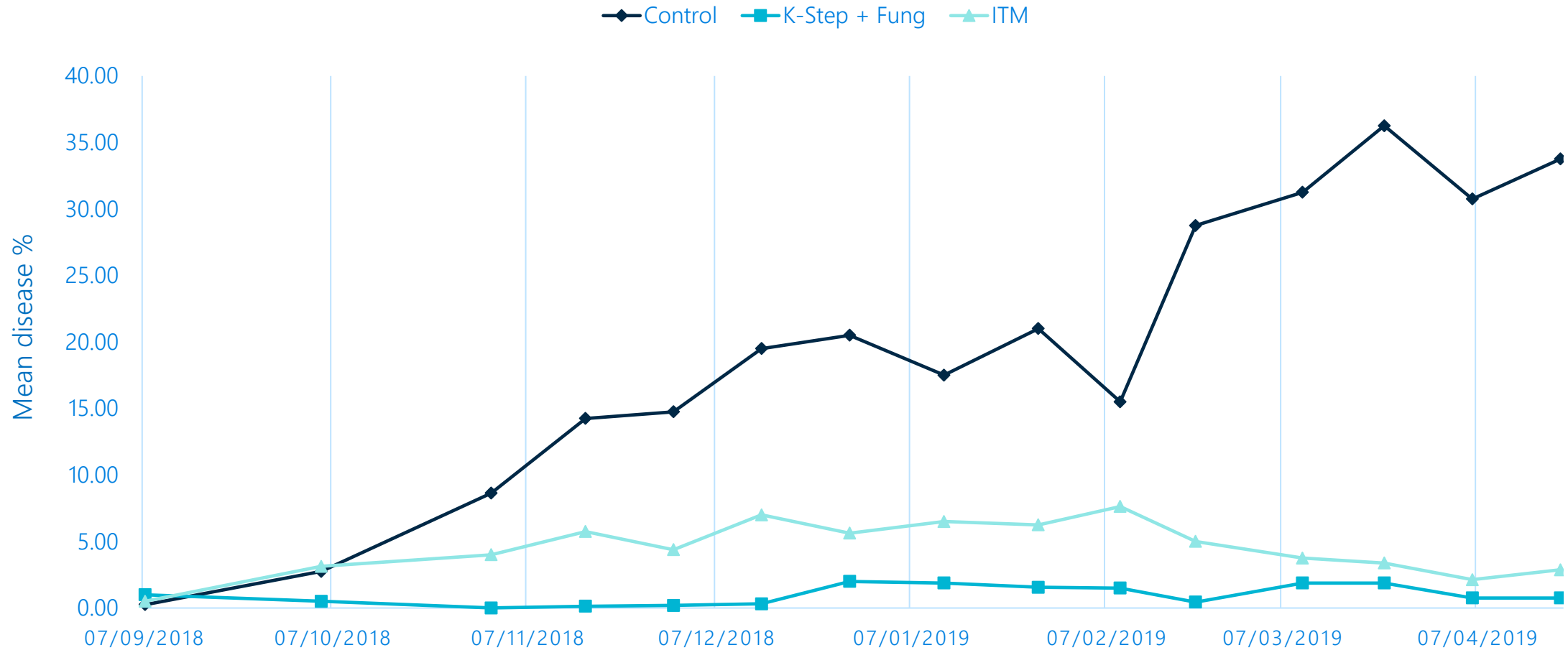


KEEP GOING AS ABOVE

Add another effect iron application

Results

Disease %



2022	January	February	March	April	May	June	July	August	September	October	November	December	2022
Thu	30	27	24	31	28	26	30	28	1	29	27	1	Thu
Fri	31	28	25	1	29	27	1	29	2	30	28	2	Fri
Sat	1	29	26	2	30	28	2	30	3	1	29	3	Sat
Sun	2	30	27	3	1	29	3	31	4	2	30	4	Sun
Mon	3	31	28	4	2	30	4	1	5	3	31	5	Mon
Tue	4	1	1	5	3	31	5	2	6	4	1	6	Tue
Wed	5	2	2	6	4	1	6	3	7	5	2	7	Wed
Thu	6	3	3	7	5	2	7	4	8	6	3	8	Thu
Fri	7	4	4	8	6	3	8	5	9	7	4	9	Fri
Sat	8	5	5	9	7	4	9	6	10	8	5	10	Sat
Sun	9	6	6	10	8	5	10	7	11	9	6	11	Sun
Mon	10	7	7	11	9	6	11	8	12	10	7	12	Mon
Tue	11	8	8	12	10	7	12	9	13	11	8	13	Tue
Wed	12	9	9	13	11	8	13	10	14	12	9	14	Wed
Thu	13	10	10	14	12	9	14	11	15	13	10	15	Thu
Fri	14	11	11	15	13	10	15	12	16	14	11	16	Fri
Sat	15	12	12	16	14	11	16	13	17	15	12	17	Sat
Sun	16	13	13	17	15	12	17	14	18	16	13	18	Sun
Mon	17	14	14	18	16	13	18	15	19	17	14	19	Mon
Tue	18	15	15	19	17	14	19	16	20	18	15	20	Tue
Wed	19	16	16	20	18	15	20	17	21	19	16	21	Wed
Thu	20	17	17	21	19	16	21	18	22	20	17	22	Thu
Fri	21	18	18	22	20	17	22	19	23	21	18	23	Fri
Sat	22	19	19	23	21	18	23	20	24	22	19	24	Sat
Sun	23	20	20	24	22	19	24	21	25	23	20	25	Sun
Mon	24	21	21	25	23	20	25	22	26	24	21	26	Mon
Tue	25	22	22	26	24	21	26	23	27	25	22	27	Tue
Wed	26	23	23	27	25	22	27	24	28	26	23	28	Wed
Thu	27	24	24	28	26	23	28	25	29	27	24	29	Thu
Fri	28	25	25	29	27	24	29	26	30	28	25	30	Fri
Sat	29	26	26	30	28	25	30	27	1	29	26	31	Sat
Sun	30	27	27	1	29	26	31	28	2	30	27	1	Sun
Mon	31	28	28	2	30	27	1	29	3	31	28	2	Mon
Tue	1	1	29	3	31	28	2	30	4	1	29	3	Tue
Wed	2	2	30	4	1	29	3	31	5	2	30	4	Wed
Thu	3	3	31	5	2	30	4	1	6	3	1	5	Thu

	N	P	K
Annual total			

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Tank-mix Suggestions

Greens

As part of an ITM Programme

Vitalnova Stressbuster (20 L)

H2Pro FlowSmart (10 L)

Monthly application to golf
greens

Sept-Feb

Greens

Enhanced mix

Vitalnova Stressbuster (20 L)

H2Pro FlowSmart (10 L)

H2Pro DewSmart (10 L)

Ryder (1 L)

Monthly application to golf
greens

Sept-Feb

Technical Values

Products that **perform**

All claims based on **research**

To be **progressive** and responsible with our advice

AICL



Highly performing
penetrant wetting agent
for use in a wide range of
turf surfaces where excess
soil moisture needs to be
managed.

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FlowSmart



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