

STØTTET AF

Promilleafgiftsfonden for landbrug

Variable N-rate trials at SEGES 2019



SEGES



Aim of the trials

- To get detailed information on yield response in winter wheat crops on sites with variation of soil, topography etc.
- At any time we want to apply most nitrogen where the response is highest.
- How do we make variable N-rate application multiple times in the same year?
- Ambitious!

Definition of yield response

Yield response = increase in yield / increase in nitrogen application

Example:

- Yield at 160 kg N per hectare: 140 kg N per hectare
- Yield at 200 kg N per hectare: 160 kg N per hectare
- Yield response = $(160-140)/(200-160) = 0,5$ kg N per kg N


First draft on chocolate bar paper in Schiphol Airport

1 2 3
0 100
50 100
100 100
0 100 0
50 100 50
100 100 100


1 2 3
0 100 100
100 0 0
0 100 100
100 10 0
0 100 100
100 0 0
0 100 100
100 0

DEEL ONZE CHOCOLADE EN DEEL ONS VERHAAL


Op dit moment werken er slaven op de cacaoplantages in West-Afrika. Veel van hen zijn kinderen. Dit is niet normaal.



Onze visie is 100% slaafvrije chocolade. Niet alleen onze chocolade. Maar alle chocolade wereldwijd.




Met waanzinnig lekkere chocolade geven we het voorbeeld en laten we zien dat chocolade maken anders kan: in smaak, verpakking en de manier waarop we met de cacaoboeren omgaan.



In ons eentje maken we onze chocolade slaafvrij, maar samen maken we alle chocolade 100% slaafvrij. Dus we vragen jou met ons mee te doen.

Want hoe meer mensen kiezen voor slaafvrije chocolade en ons verhaal delen, hoe eerder 100% slaafvrije chocolade normaal wordt. Uiteindelijk bepaal jij. Doe je mee? Deel onze chocolade en deel ons verhaal.



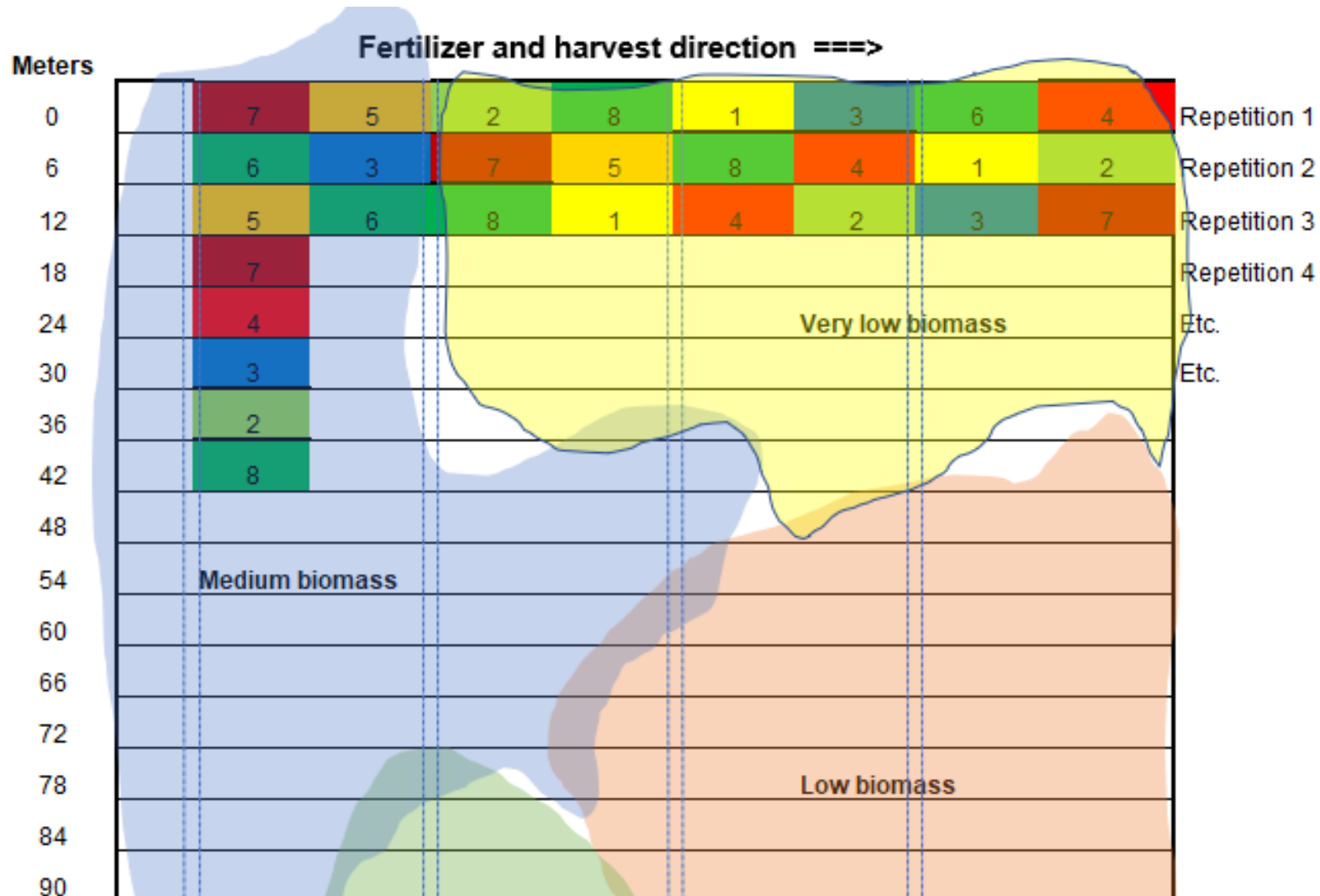
CRAZY ABOUT CHOCOLATE, SERIOUS ABOUT PEOPLE

29 56 56
29 0 0
3 2 7

(Zwaart) 100% slaafvrij

100% slaafvrij

Design and treatment plan for chocolate-bar-paper-trials



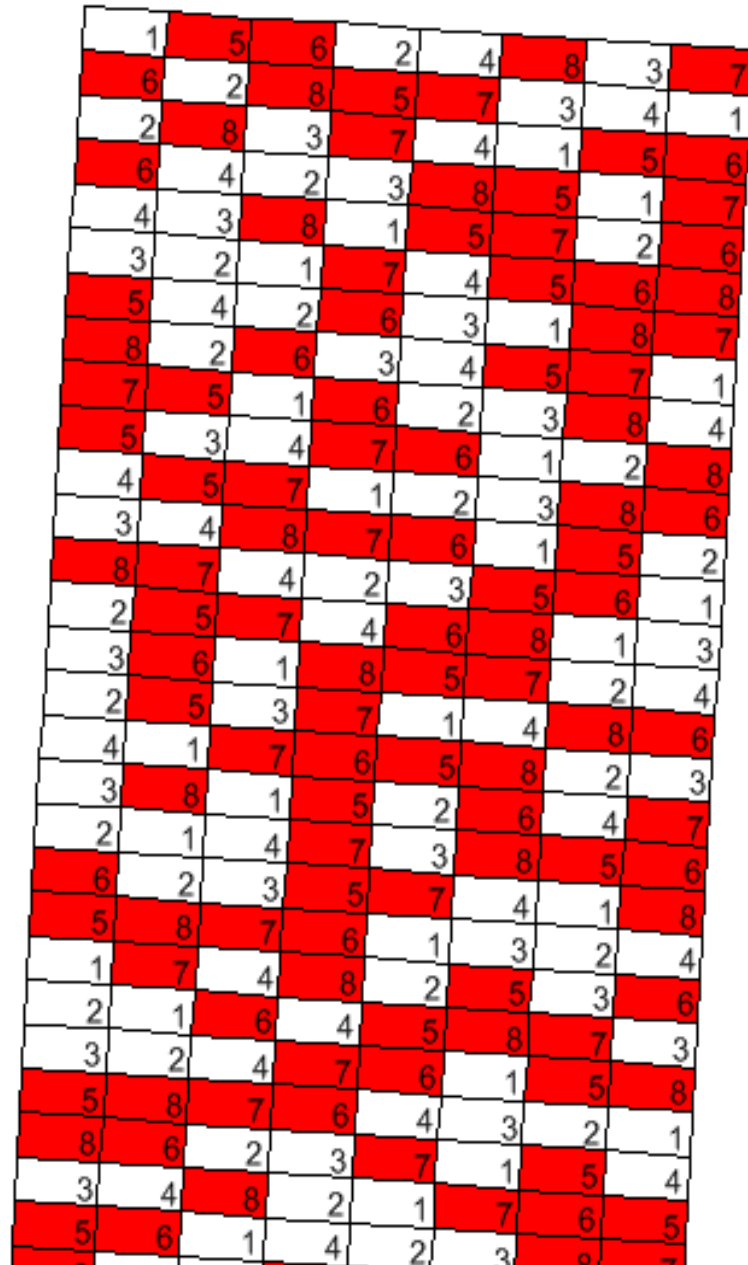
Treatments

Treatment	Kg N per hektare			Total
	March	April	May	
1	40	40	40	120
2	40	40	80	160
3	40	80	40	160
4	40	80	80	200
5	80	40	40	160
6	80	40	80	200
7	80	80	40	200
8	80	80	80	240

An aerial photograph of a golf course green with a grid overlay. The grid consists of green lines forming a 10x10 grid. Each intersection of the grid lines is labeled with a number. The numbers are arranged in a roughly rectangular pattern, with some numbers missing or obscured. The numbers are: 442, 316, 190, 64, 1; 445, 319, 193, 67, 4; 448, 322, 196, 70, 7; 451, 325, 199, 73, 10; 454, 328, 202, 76, 13; 457, 331, 205, 79, 16; 460, 334, 208, 82, 19; 463, 337, 211, 85, 22; 466, 340, 214, 88, 25; 469, 343, 217, 91, 28; 472, 346, 220, 94, 31; 475, 349, 223, 97, 34; 476, 415, 289, 163, 37; 479, 418, 292, 166, 40; 482, 421, 295, 169, 43; 485, 424, 298, 172, 46; 488, 427, 301, 175, 49; 491, 430, 304, 178, 52; 494, 433, 307, 181, 55; 497, 436, 310, 184, 58; 500, 439, 313, 187, 61; 503, 377, 251, 125, 62, 63. There are red star markers on the numbers 460, 488, 503, and 251.

442	316	190	64	1
445	319	193	67	4
448	322	196	70	7
451	325	199	73	10
454	328	202	76	13
457	331	205	79	16
460	334	208	82	19
463	337	211	85	22
466	340	214	88	25
469	343	217	91	28
472	346	220	94	31
475	349	223	97	34
476	415	289	163	37
479	418	292	166	40
482	421	295	169	43
485	424	298	172	46
488	427	301	175	49
491	430	304	178	52
494	433	307	181	55
497	436	310	184	58
500	439	313	187	61
503	377	251	125	62, 63

Very simple application map – 40 or 80 kg N per hectare each time



40 kg N/ha



80 kg N/ha

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The proportions of the trials

- Three sites near Aarhus
- 8 treatment
- 60-70 repetitions per site
- In all 1,576 plots
- 11.3 hectares
- All work done with GPS
- No physical marks in the field

Three sites in Eastern Jutland



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Photo: Mikkel Møller Østerhaab, SEGES





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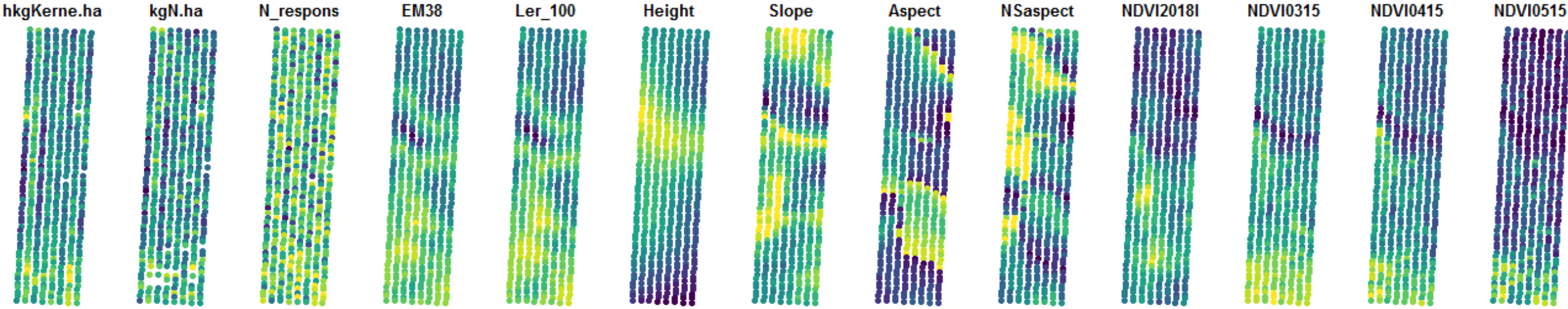


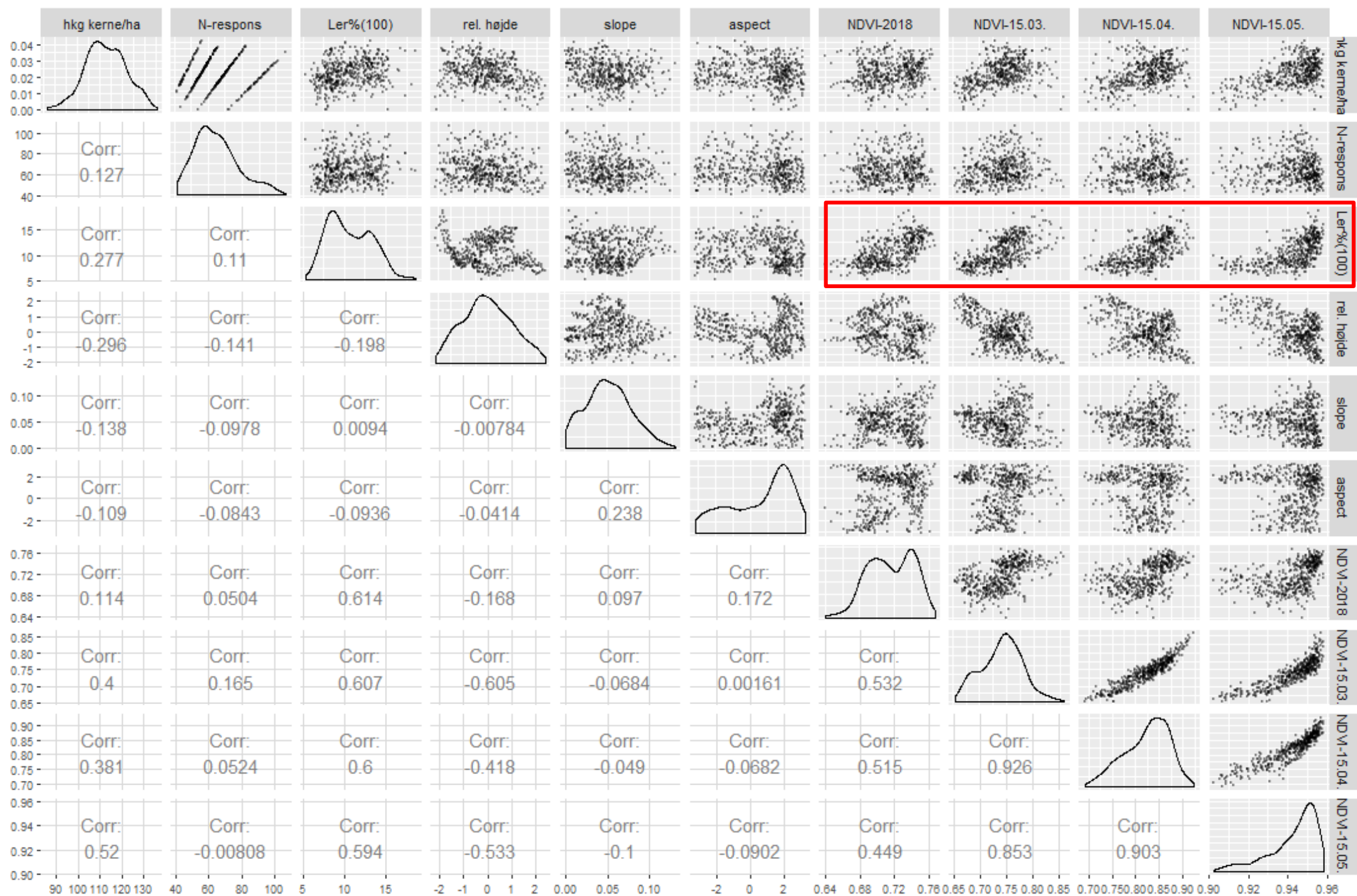
Photo: Thomas Nitschke, TI



Photo: Mikkel Møller Østerhaab, SEGES

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Trial 002. Yield response, kg N per kg N

