



UiT The Arctic University of Norway

Implementing exposure-reducing measures in the Norwegian salmon industry: Challenges and opportunities

Oral presentation

**INTERNATIONAL FISHING INDUSTRY SAFETY & HEALTH
CONFERENCE (IFISH) 6**

JAN 8TH-12TH, 2024, ROME

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Marte Thomassen, Bjørg Eli Hollund





EFFECTS OF INTERVENTIONS TO PREVENT WORK-RELATED ASTHMA, ALLERGY AND OTHER HYPERSENSITIVITY REACTIONS IN NORWEGIAN SALMON INDUSTRY WORKERS



- The SHInE study

JMIR RESEARCH PROTOCOLS

Höper et al

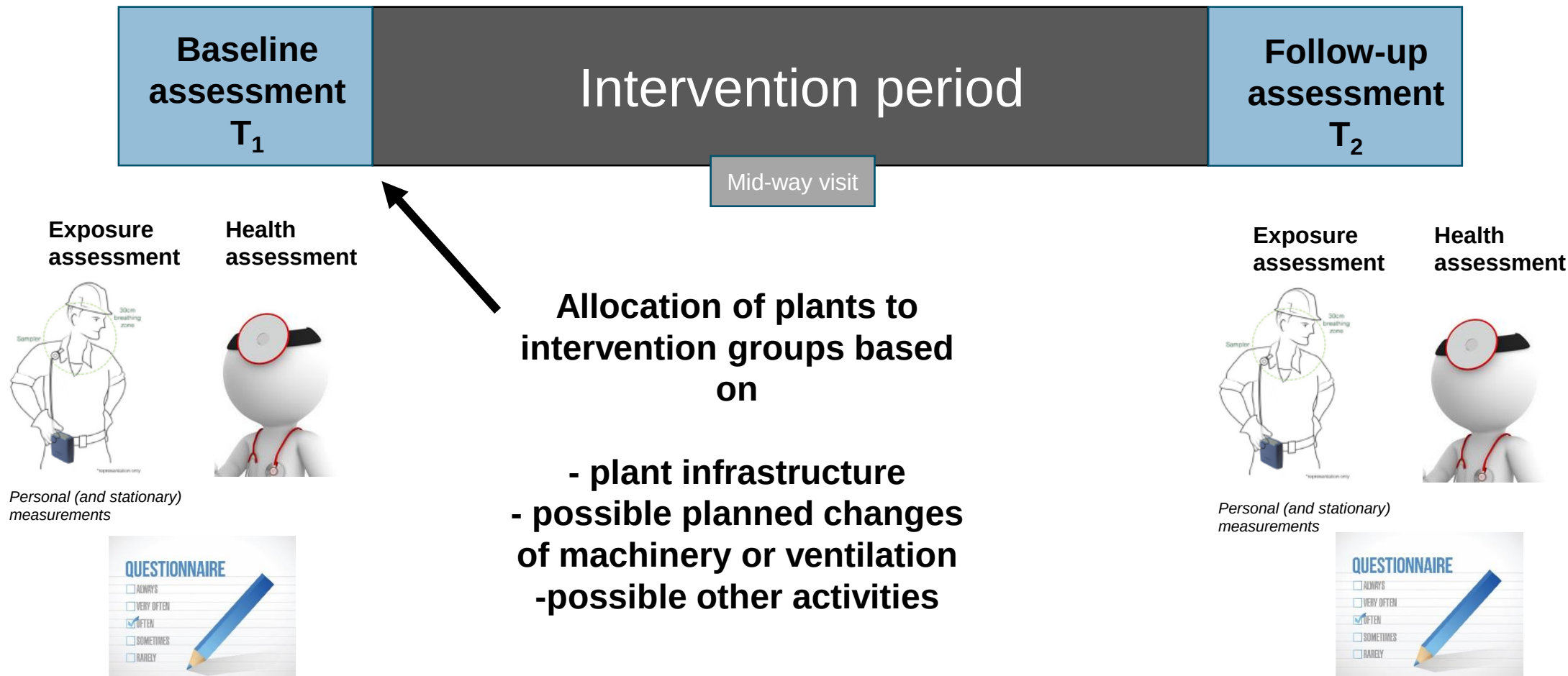
Protocol

Effects of Interventions to Prevent Work-Related Asthma, Allergy, and Other Hypersensitivity Reactions in Norwegian Salmon Industry Workers (SHInE): Protocol for a Pragmatic Allocated Intervention Trial and Related Substudies

Anje Christina Höper^{1,2}, MD, PhD; Jorunn Kirkeleit^{3,4}, PhD; Marte Renate Thomassen^{1,4}, PhD; Kaja Irgens-Hansen^{3,4}, MD, PhD; Bjørg Eli Hollund^{3,4}, PhD; Carl Fredrik Fagernæs^{5,6}, MD; Sindre Rabben Svedahl^{5,6}, MD, PhD; Thor Eirik Eriksen^{1,2}, PhD; Miriam Grgic¹, PhD; Berit Elisabeth Bang^{1,7}, PhD



Study timeline (one year)

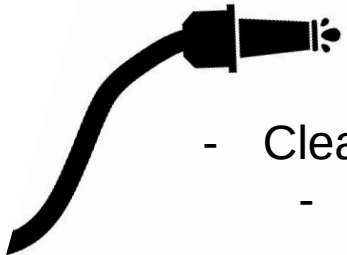


The three anticipated intervention categories

CLEANING OF SURFACES (CS) (behavioral and/or technical measures)



Swabbing



- Cleaning with water hose
 - # use /shift
 - # workers involved
 - Dimensions

NOZZLES (NZ) (technical measures)



CONTROL (CTR)

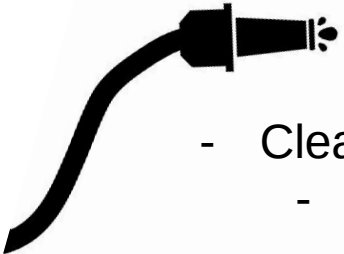
The three anticipated intervention categories

CLEANING OF SURFACES (CS)

(behavioral and/or technical measures)



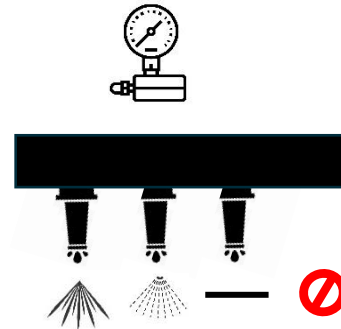
Swabbing



- Cleaning with water hose
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NOZZLES (NZ)

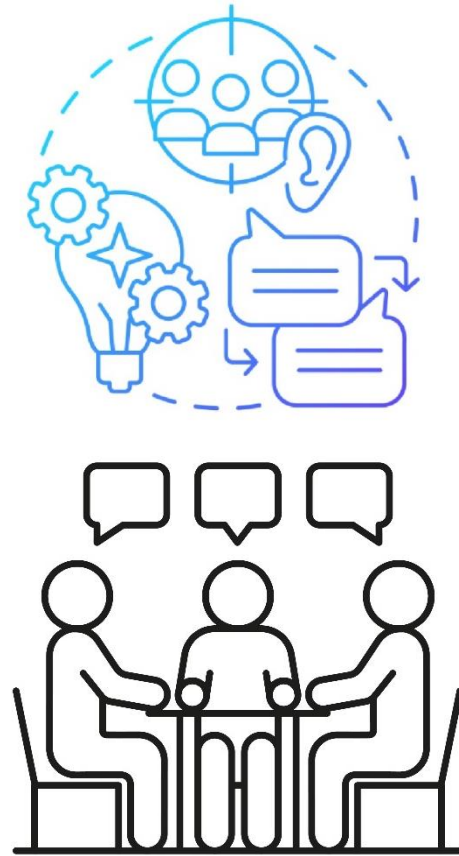
(technical measures)



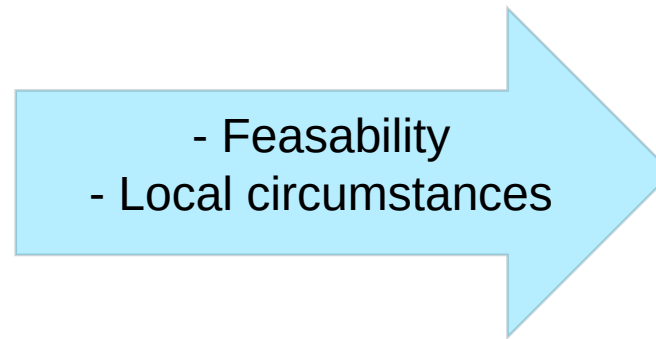
- Dimensions
- Shielding
- Pressure
 - main
 - self-regulation
- Number

CONTROL (CTR)

Local plant staff was the prime mover in planning and implementation



Initial collaborative meeting



**Implementing
Changes**

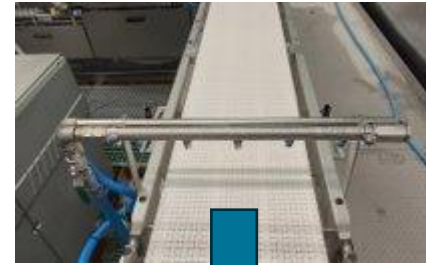
Examples of potential exposure-reducing measures

CLEANING OF SURFACES (CS)



Digital training course

NOZZLES (NZ)



Removal of nozzle rack

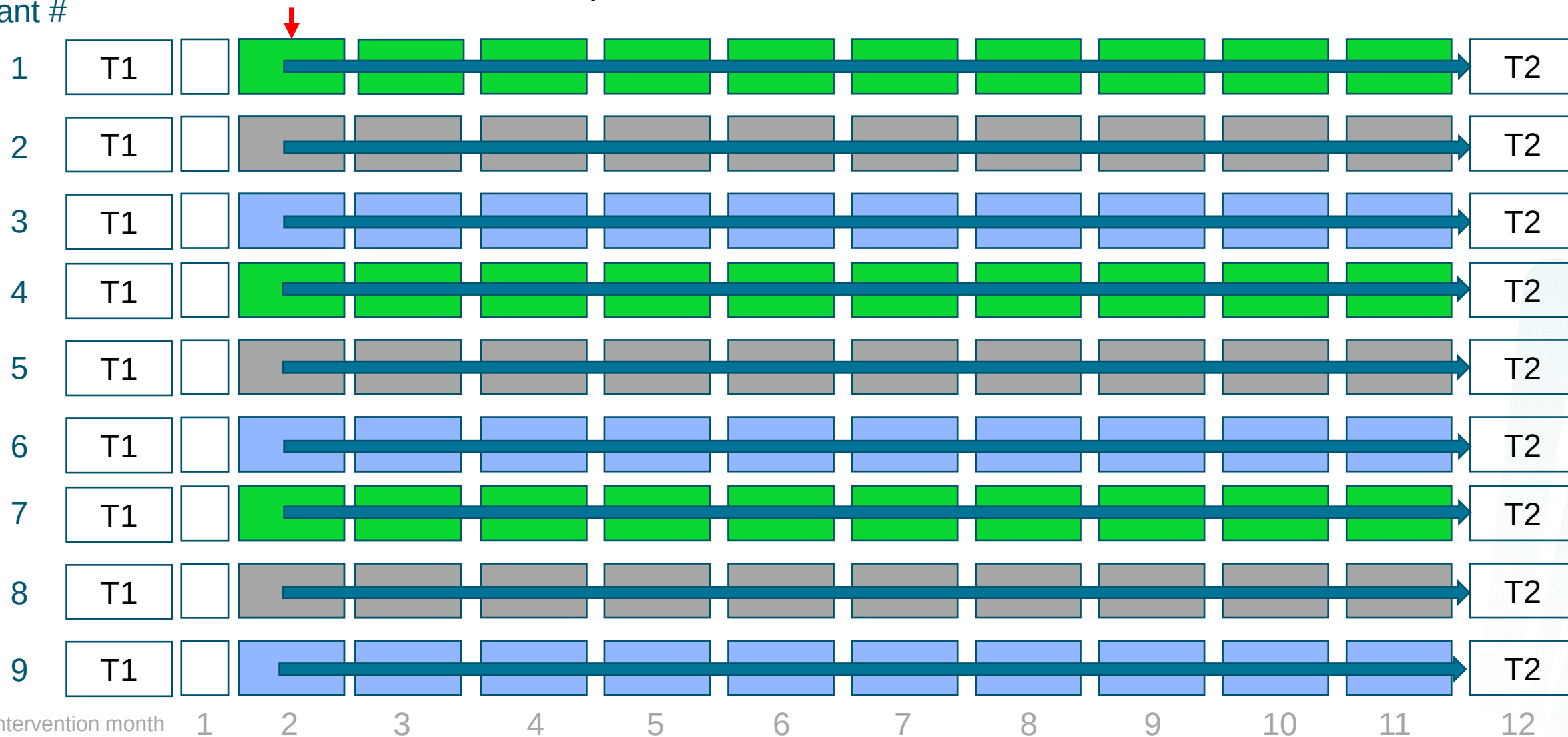


Shielding

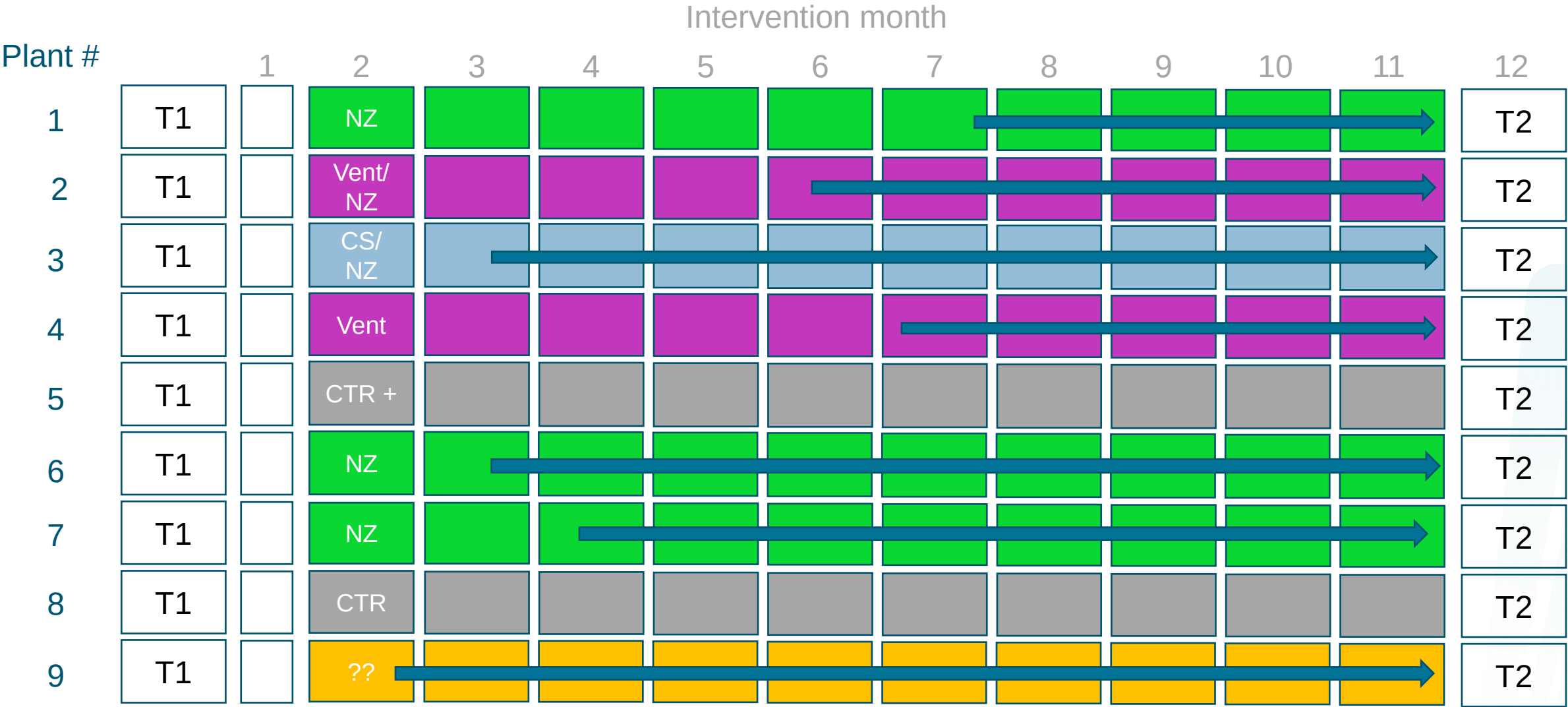
Plan for intervention and allocation

Start of intervention 5-8 weeks post-T1

Plant #

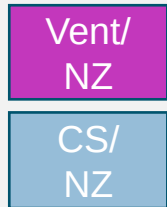


Adjusted categorization

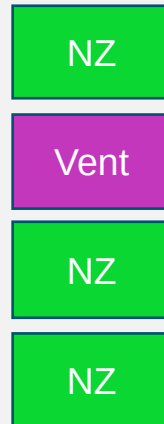


Possible re-adjustments of groups for analysis

2 types of intervention



1 type of intervention



CTR +

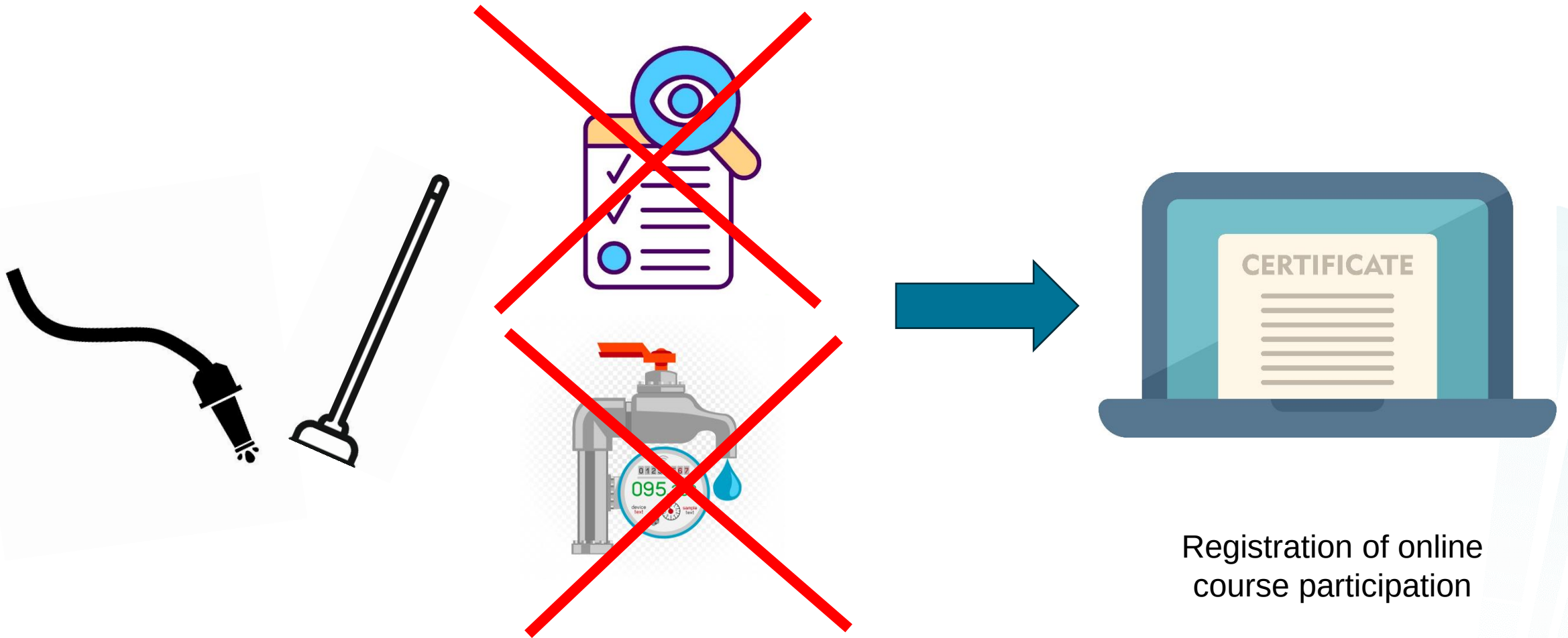
No intervention

CTR

Other measures

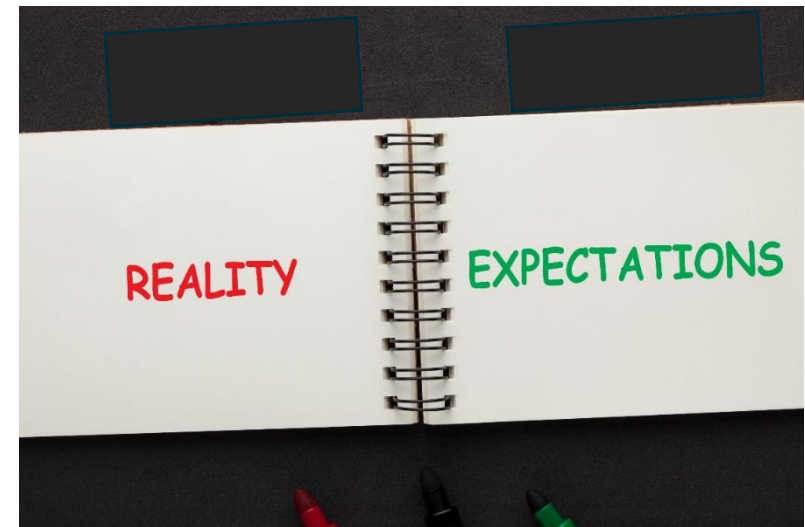
??

Monitoring of behavioral intervention measures was difficult



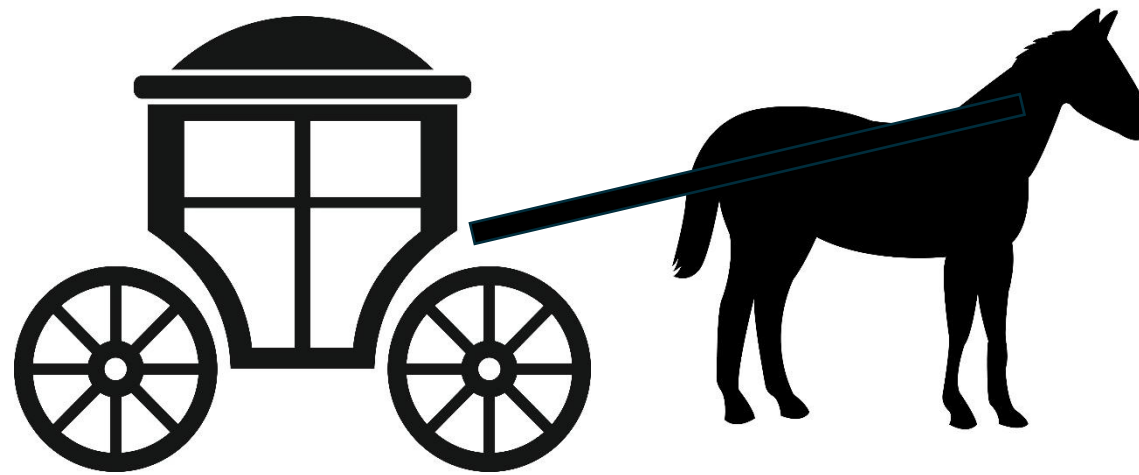
The pragmatic design calls for non-rigid solutions

What intervention category
was the plant in?



and
what happened ?

Putting the cart ...

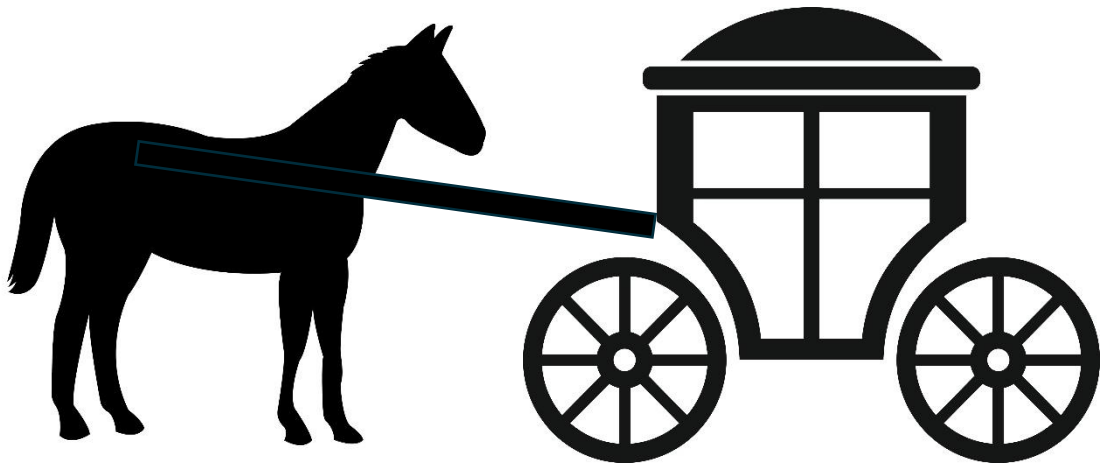


What intervention category
was the plant in?

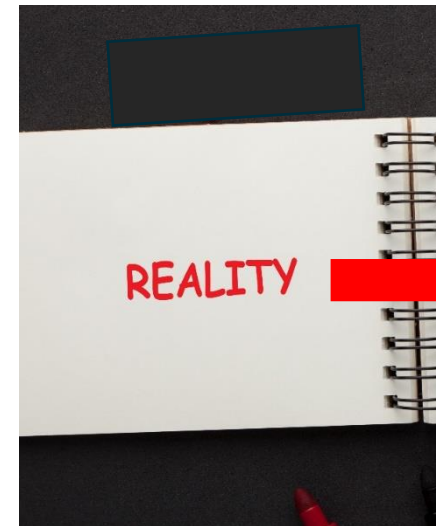


and
what happened ?

...in front of the horse...



~~What intervention category
was the plant in?~~



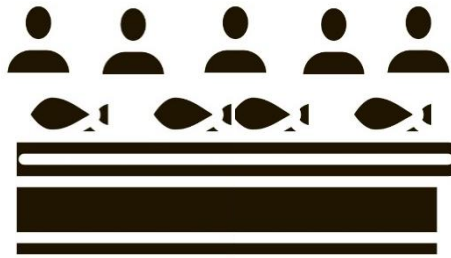
What actions HAVE
been done ?

and
what happened ?

Considerations for comparisons of exposure assessments pre-/post intervention

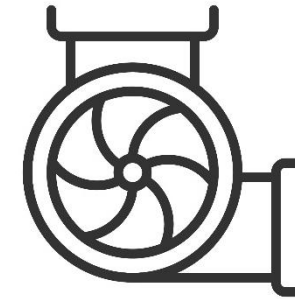
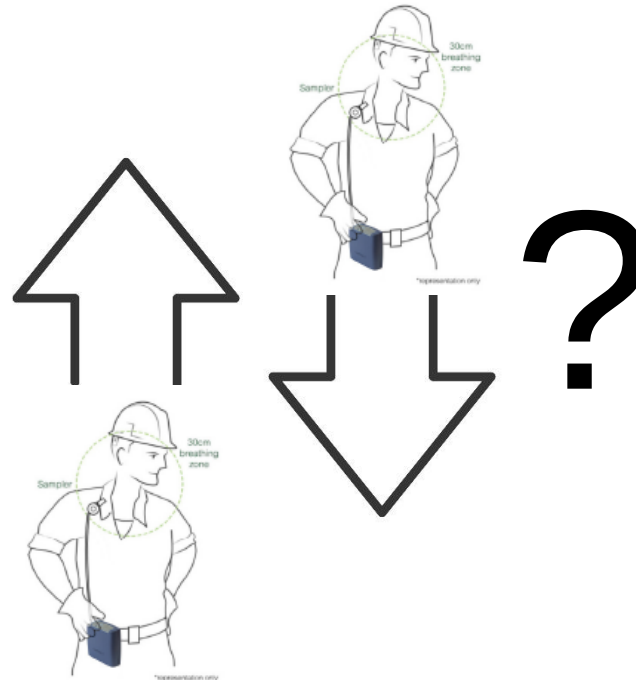


Production volume

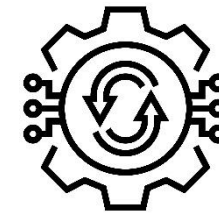


Number of workers

**Exposure
assessment**

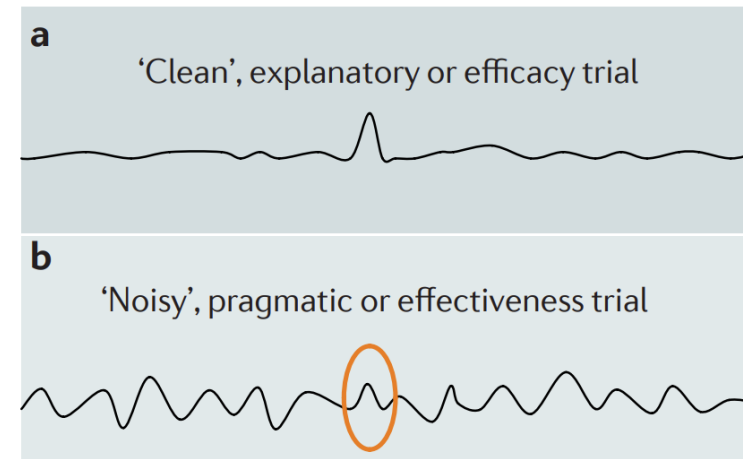
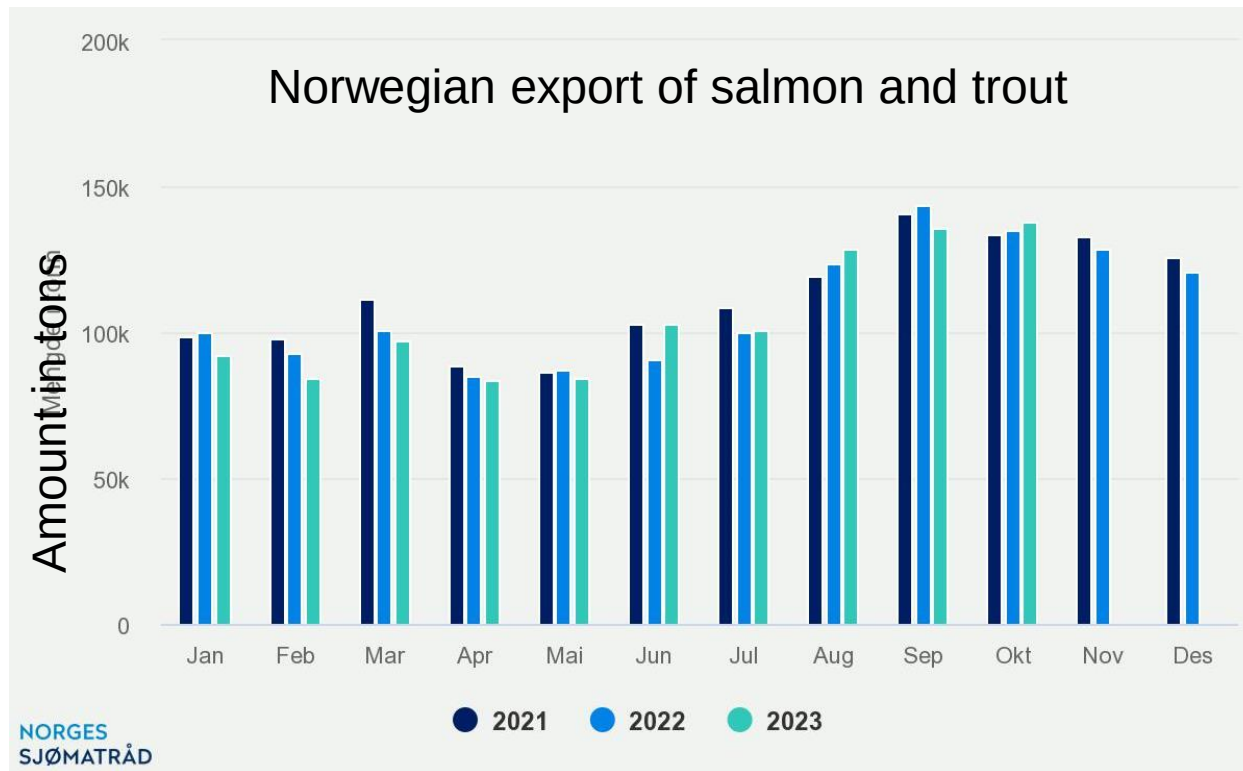


Ventilation



*Changes in factory set-up
or machinery*

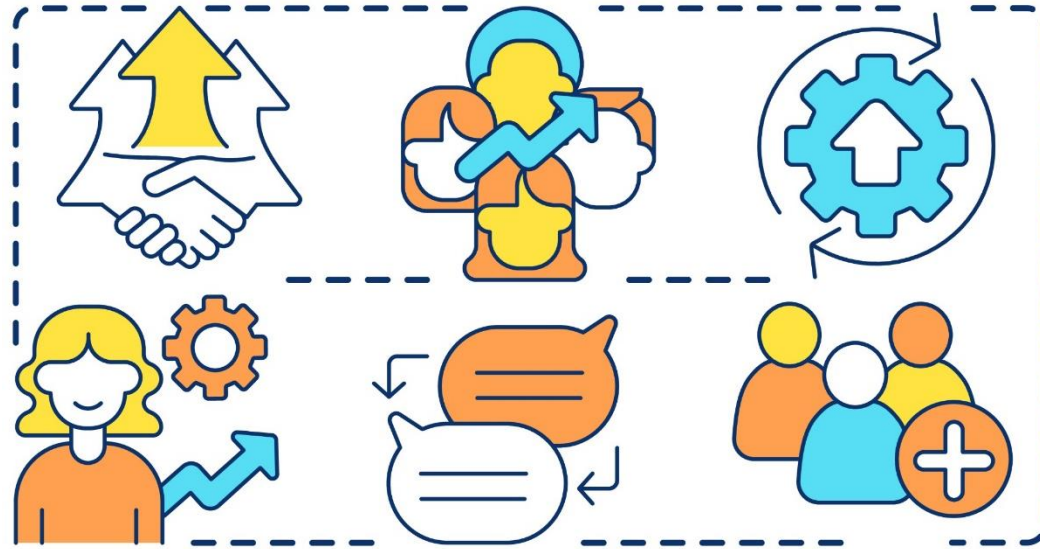
We contribute to knowledge on intervention effectiveness in a highly dynamic industry



Ideal conditions

Real world /
usual
circumstances

The tight collaboration with an interested and active industry gave many advantages



Good ideas



Feasible solutions



Insight in industry

Thanks to all participating plants and staff



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