Norwegian cohort in AGRICOH; Cancer in the Norwegian Agricultural Population

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AGRICOH CONSURTIUM 2022 MEETING

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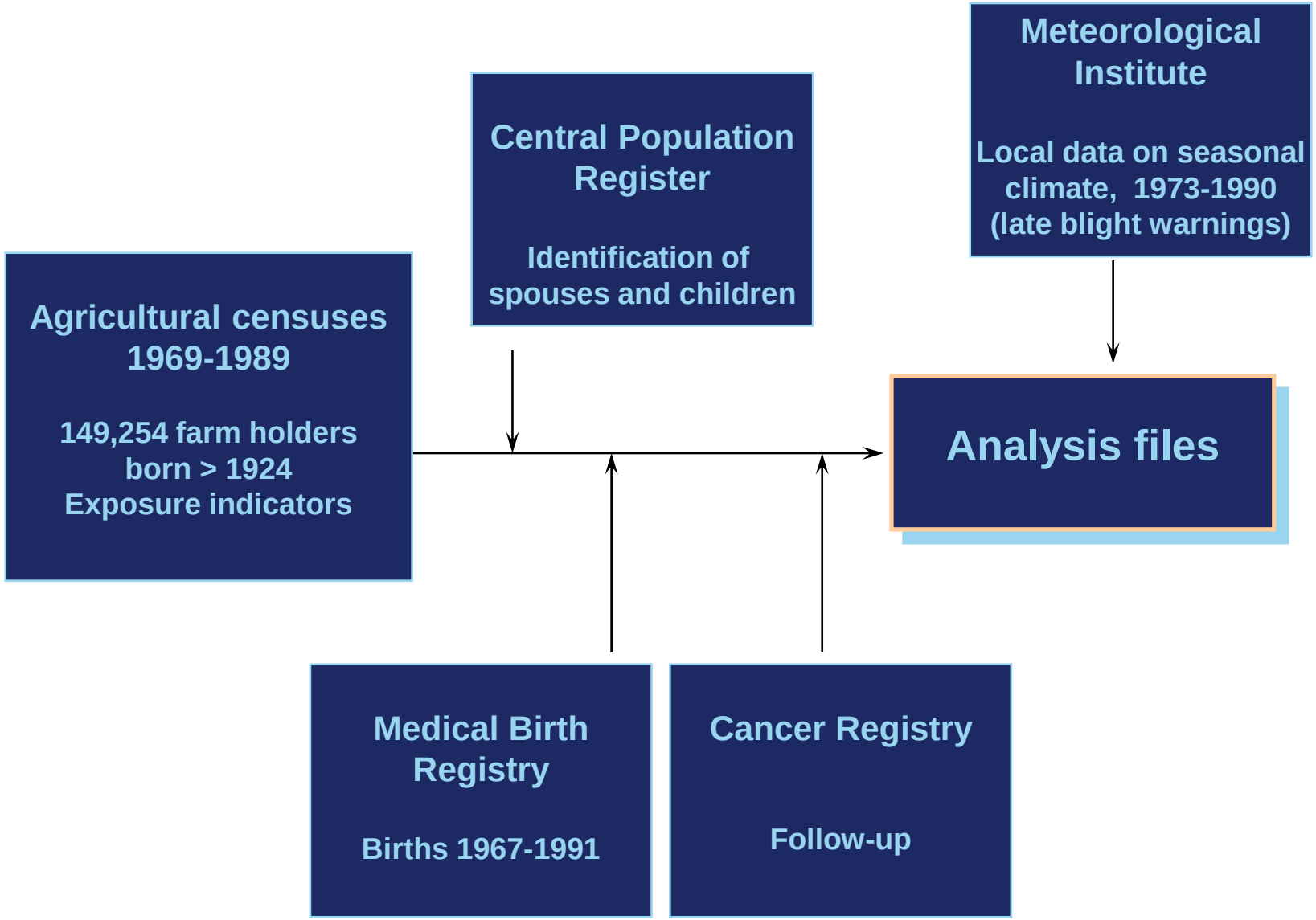
Meteorological Institute
Local data on seasonal climate, 1973-1990 (late blight warnings)
Central Population Register
Identification of spouses and children
Agricultural censuses 1969-1989
149,254 farm holders born > 1924
Exposure indicators
Analysis files
Medical Birth Registry
Births 1967-1991
Cancer Registry
Follow-up

Cancer in the Norwegian Agricultural Population CNAP

- Secondary data use from agricultural censuses 1969, 74, 79, 85 and 89
- Censuses include all farm holders,
  - 150 000 family farm units, represented by farm holders, 85 % males
  - Information about production on the farm level
  - No information about individual exposures such as life style factors
- Population registry linkage to spouses and children to farmers
  - 110 000 spouses
  - 320 000 children
- Linkage with the Cancer Registry in 2011, cancer outcomes
- Linkage with the Medical Birth Registry in 1991, reproductive outcomes

Kristensen et al, 2006

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Cancer analysis. Explanatory variables

- Farm production.
- Work input by the farmer, farm income, acreage
- Agriculturally educated farmer.
- Work outside the farm: Construction industry; primary industries (mostly fishing).
- Region, Latitude.
- Mean sun exposure April-September in farm neighbourhood (29 measurement stations)
- Fungal forecasts (46 measurement stations)
- Mycotoxin in settled grain dust related to grain production in four regions of Norway

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Country-specific Crop exposure matrix (for AGRICOH cancer group analyses)

- Farm production.
- Purchase of pesticides or equipment for pesticide application
- Pesticide Active Ingredient allowed on the crop that was cultivated in the relevant time period of production
- Pesticide Active Ingredient assigned to each individual on a farm level, based on the exposure matrix

ORIGINAL ARTICLE

Assessment of occupational exposure to pesticides in a pooled analysis of agricultural cohorts within the AGRICOH consortium

Maartje Brouwer,[1] Leah Schinasi,[2] Laura E Beane Freeman,[3] Isabelle Baldi,[4,5,6] Pierre Lebailly,[7,8,9] Gilles Ferro,[2] Karl-Christian Nordby,[10] Joachim Schüz,[2] Maria E Leon,[2] Hans Kromhout[1]

Reproductive outcomes

- Infertility, menstrual cycle perturbations, spontaneous abortions, birth defects, low birth weight, prematurity…
- Challenge to research: bias
  - *observed concepts/births result from complex selection processes*
- The observed effects of exposure may be paradoxical
- A denominator (the observed population) is often missing, unable to observe true incidence

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