

# Measurement of fruit consumption – consumers' view



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# Introduction

Problem: fruit consumption too low

Interesting to get insight in consumption behaviour of consumers.

Be aware food consumption changes:

- From day to day
- From person to person
- Week and weekend, season, special occasions
- Food consumption is hard to remember

Aim of presentation: to give insight in measurement instruments of fruit consumption

# Techniques

**Retrospective techniques:** (yesterday, last week, month year)

- 24 hours food recall
  - what did you have for breakfast yesterday? How much? What did you have for lunch? Etc
- Dietary history
  - What is your dietary pattern on a regular day?
- Food frequency questionnaire
  - How often do you eat fruit? 1,2, 3, times a day, week etc
- Self rated consumption
  - Do you think you eat insufficient or sufficient amounts of fruit regarding the guidelines? (scored -3 - +3)

**Prospective techniques** (at the moment or shortly after)

- Diary
  - Please write down what you eat at the following moments. How much did you eat?

# Characteristics

**Food** all consumed food, products groups (fruit), specific products (apple)

**Time** now, past, year or season, week, weekend, specific meals or day pattern or in general

## Amount of food

- Weighing food
- Estimating by means of household measures of respondent
- Using measures and weights of standard portions

Further reading: Van Staveren & Ocké, 2006; Biro e.a., 2002; Nelson & Bingham, 1996

# Criteria for choosing

- What is the **aim** of your research?  
Examples:
  - Identify those groups of consumers that consume lower than recommended amounts of fruit
  - Average fruit consumption of children
  - Identify the types of fruit which are consumed out of home
- What is your target group?
  - children, elderly, convenience oriented etc
- Where are you interested in?
  - fruit as bought, fruit as eaten, consumption of specific nutrients
- Is there earlier research?
- What resources available ?
  - time, money, computers

# Techniques and what it measures

	diary	24 hour recall	Dietary history	FFQ
Actual consumption	+	+	-	-
Usual consumption	-	-	+	+
Information meals	+	+	+/-	-
Information separate day	+	+	-	-
Information eating moments	+	+	+/-	-
Information portion size	+	+	+	+

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# Type of information needed and recommended techniques

Information	Recommended technique
Groups average	24 hour recall Diary - one day
Percentages of population with food or nutrient intake (at risk)	Repeated 24 hour recall, FFQ, dietary history
Consumption of nutrients of an individual	Diary, dietary history



# What is fruit?

Fruit -

Fresh, frozen, cooked, canned,  
dried,  
fruit in recipes (salads)

Fruit juice

100% juice sweetened or  
unsweetened,  
consumed as beverage

Tomato,  
avocado



Jam Marmalade

Desserts

fruit yoghurt/ice

fruit in cookies/pies

smoothies

Fruit nectars

Serving size pieces grams?

Cullen et al (2004)

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# Summary

Different techniques to estimate food consumption

Sources of variance are:

- Inter person variance
- Intra person variance
- Day to day variance

Healthcare, scientific research or consumer research for product development need different characteristics of the techniques.

Definition of food product - What is fruit?

# Conclusion

Different ways to measure fruit consumption.

All techniques have advantages and disadvantages

To choose the right measurement you have to consider:

- What is your aim
- What is your target group
- What are your resources

Thank you for your attention



Questions?