

FAO Crops Data 1961-2007

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```
# import packages  
library(dplyr)
```

```
##  
## Attaching package: 'dplyr'  
  
## The following objects are masked from 'package:stats':  
##  
##   filter, lag  
  
## The following objects are masked from 'package:base':  
##  
##   intersect, setdiff, setequal, union
```

```
library(tidyverse)
```

```
## -- Attaching core tidyverse packages ----- tidyverse 2.0.0 --  
## v forcats   1.0.0      v readr     2.1.5  
## v ggplot2   3.5.1      v stringr  1.5.1  
## v lubridate 1.9.3      v tibble   3.2.1  
## v purrr     1.0.2      v tidyr    1.3.1
```

```
## -- Conflicts ----- tidyverse_conflicts() --  
## x dplyr::filter() masks stats::filter()  
## x dplyr::lag()     masks stats::lag()  
## i Use the conflicted package (<http://conflicted.r-lib.org/>) to force all conflicts to become errors
```

```
#import data of csv files in R programming  
getwd() #function to know the current working directory(WD)
```

```
## [1] "D:/faodata"
```

```
setwd("D:\\faodata")#function to reset the current WD
```

```
#import csv files  
faocrops <-read.csv("fao_data_crops.csv")
```

```
# Data Explore
```

```
View(faocrops)
colnames(faocrops)
```

```
## [1] "country_or_area" "element_code"      "element"          "year"
## [5] "unit"            "value"              "value_footnotes" "category"
```

```
# Get unique country or area of the 'country_or_area' column
unique_country_or_area <- unique(faocrops$country_or_area)
# Remove empty string entries
unique_country_or_area <- unique_country_or_area[unique_country_or_area != ""]
# Print the filtered unique elements
# There are 259 unique elements in the country_or_area column
head(unique_country_or_area)
```

```
## [1] "Americas +"      "Asia +"           "Caribbean +"
## [4] "Central America +" "Colombia"         "Cuba"
```

```
tail(unique_country_or_area)
```

```
## [1] "Namibia"          "Marshall Islands" "Nauru"           "Saint Helena"
## [5] "Liechtenstein"    "Faroe Islands"
```

```
# Get unique elements of the 'element' column
unique_element <- unique(faocrops$element)
# Remove empty string entries
unique_element <- unique_element[unique_element != ""]
# Print the filtered unique elements
print(unique_element) # There are 10 unique elements in the element column
```

```
## [1] "Area Harvested"
## [2] "Yield"
## [3] "Production Quantity"
## [4] "Seed"
## [5] "Gross Production 1999-2001 (1000 I$)"
## [6] "Net Production 1999-2001 (1000 I$)"
## [7] "Gross PIN (base 1999-2001)"
## [8] "Grs per capita PIN (base 1999-2001)"
## [9] "Net PIN (base 1999-2001)"
## [10] "Net per capita PIN (base 1999-2001)"
```

```
# Get unique element code of the 'element_code' column
unique_element_code <- unique(faocrops$element_code)
print(unique_element_code) # There are some unwanted elements in the unique elements code
```

```
## [1] "31"
## [2] "41"
## [3] "51"
## [4] "Footnote"
```

```
## [5] "Calculated Data"
## [6] "May include official, semi-official or estimated data"
## [7] "Not reported by country"
## [8] "FAO Estimate"
## [9] "Unofficial figure"
## [10] "111"
## [11] "152"
## [12] "154"
## [13] "432"
## [14] "434"
## [15] "436"
## [16] "438"
```

```
# Define the elements to be removed
elements_to_remove <- c("Footnote", "Calculated Data", "May include official, semi-official or estimated data",
                        "Not reported by country", "FAO Estimate", "Unofficial figure")
# Remove the specified elements
unique_element_code <- setdiff(unique_element_code, elements_to_remove)

# Print the filtered unique elements
print(unique_element_code)
```

```
## [1] "31" "41" "51" "111" "152" "154" "432" "434" "436" "438"
```

```
# Get unique elements of the 'year' column
unique_year <- unique(faocrops$year)
# Remove NA values
unique_year <- unique_year[!is.na(unique_year)]
# Print the filtered unique elements
print(unique_year)
```

```
## [1] 2007 2006 2005 2004 2003 2002 2001 2000 1999 1998 1997 1996 1995 1994 1993
## [16] 1992 1991 1990 1989 1988 1987 1986 1985 1984 1983 1982 1981 1980 1979 1978
## [31] 1977 1976 1975 1974 1973 1972 1971 1970 1969 1968 1967 1966 1965 1964 1963
## [46] 1962 1961
```

```
# Print the filtered unique elements
print(unique_year)
```

```
## [1] 2007 2006 2005 2004 2003 2002 2001 2000 1999 1998 1997 1996 1995 1994 1993
## [16] 1992 1991 1990 1989 1988 1987 1986 1985 1984 1983 1982 1981 1980 1979 1978
## [31] 1977 1976 1975 1974 1973 1972 1971 1970 1969 1968 1967 1966 1965 1964 1963
## [46] 1962 1961
```

```
head(unique_year)
```

```
## [1] 2007 2006 2005 2004 2003 2002
```

```
tail(unique_year)
```

```
## [1] 1966 1965 1964 1963 1962 1961
```

```
# The dataset contain information of 1961-2007
```

```
# Get unique elements of the 'unit' column
```

```
unique_unit <- unique(faocrops$unit)
```

```
# Remove NA values
```

```
unique_unit <- unique_unit[unique_unit != ""]
```

```
# Print the filtered unique elements
```

```
print(unique_unit) # There are 5 unique elements in the elements column
```

```
## [1] "Ha" "Hg/Ha" "tonnes" "1000 Int. $" "Int. $"
```

```
# Get unique elements of the 'category' column
```

```
unique_category <- unique(faocrops$category) # There are 172 unique elements in the category column
```

```
head(unique_category)
```

```
## [1] "agave_fibres_nes" "almonds_with_shell"
```

```
## [3] "anise_badian_fennel_corian" "apples"
```

```
## [5] "apricots" "arecanuts"
```

```
tail(unique_category)
```

```
## [1] "vetches" "walnuts_with_shell" "watermelons"
```

```
## [4] "wheat" "yams" "yautia_cocoyam"
```