

## BREEDING TASKS PERFORMING

### from 1.01.2018 to 31.12.2018

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The Polish Federation of Cattle Breeders and Dairy Farmers in Warsaw keeps herd books for breeding dairy cattle from July 1, 2004. The Cattle Breeding Department of PFCBDF has been established to carry out the essential projects. This Department consists of dairy cattle qualifiers and specialists of breeding documents. In the connection with herd book keeping the following action is carried out:

1. Registration of heifers, cows and bulls in supplementary and main section of herd book in numeric version of electronic computer database. PFCBDF is also responsible for appointing of the minimal thresholds of selection index for cows which are registered in Elite class.

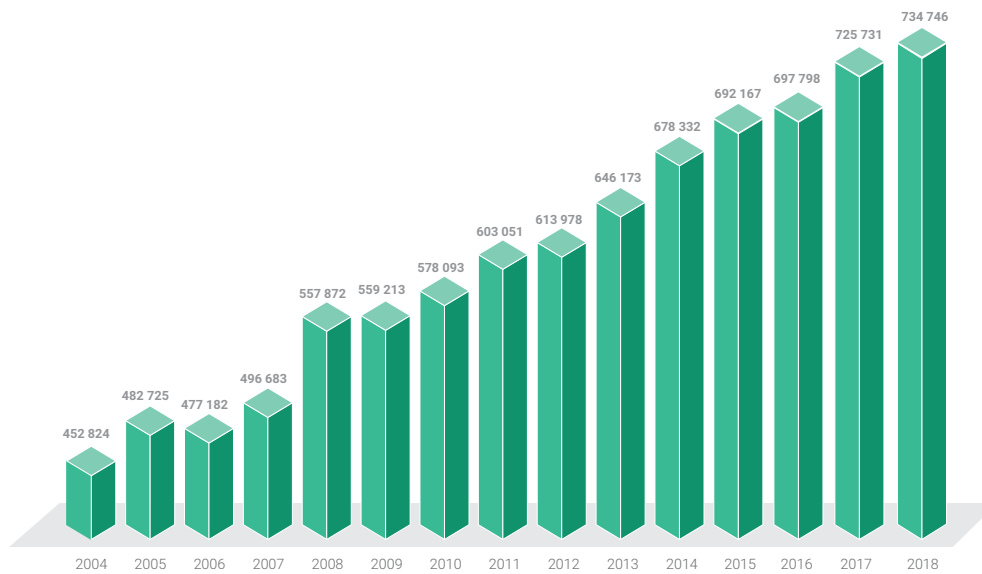
The Polish Federation of Cattle Breeders and Dairy Farmers in Warsaw is keeping the herd book for the following dairy breeds of cattle in Poland:

- Holstein and Red Holstein,
  - Simmental,
  - Jersey,
  - Red Polish,
  - Montbeliarde,
  - Polish Black and White,
  - Polish Red and White,
  - Brown Swiss,
  - Swedish Red.
2. Issuance of the certificates confirming the registration of dairy cattle in herd book,
  3. Issuance of the official zootechnical certificates for pure-bred breeding animals of the bovine species, their semen, ova and embryos,
  4. Issuance of the certificates confirming the parentage of breeding animals in domestic trade,
  5. Co-operation with AI stations in Poland,
  6. Participation in the realization of the conservation breeding program of the genetic recourses for the breeds: Red Polish, Polish Black and White and Polish Red and White,
  7. Approval of animals for shows and exhibitions.

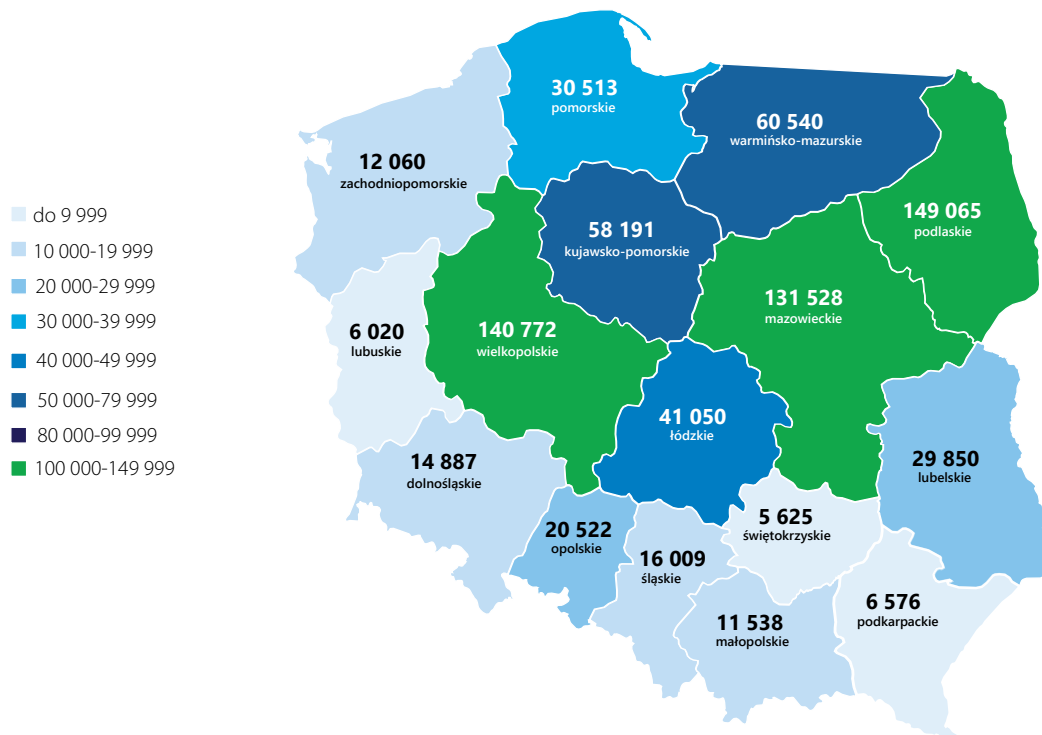
Within the time period between 1.01.2018 and 31.12.2018 the following number of dairy cattle was registered in herd book:

- heifers born in recorded herds: **281 811 + 145m** (meat class)
- cows: **52 965 + 285** (meat class) including **1557** cows recorded in the Elite class established for the cows with high breeding value and at least good plus (GP) body score and at least good plus (GP) udder, in the main section of the book;
- stud bulls: **1324** both for AI stations and natural service.

The number of cows registered in the herd books for dairy cattle as of the day of 31.12.2018 in Poland was **734 746**, being **90,00** % of recorded cows. The changes in the number of cows registered in the herd books in the years 2004-2018 are illustrated in the table below.



The map of Poland below presents the number of cows registered in herd books as of the day of 31.12.2018 in individual voivodships:



Selection index **PF** "Production and Functionality" for the Holstein bulls, being in force since 2007, was modified and adapted to the current needs of farmers in 2014 and starting from April 2014 it is also calculated and used in breeding works for Holstein females.

The current formula of the index PF is as follows:

$$PF = 0.4 * PI\_PROD + 0.25 * PI\_POKR + 0.15 * PI\_PŁOD + 0.1 * WH\_KSOM + 0.1 * WH\_DŁUG$$

- PI\_PROD - Production Index
- PI\_POKR - Conformation index
- PI\_PŁOD - Fertility index
- WH\_KSOM - Breeding Value for Somatic Cell Score
- WH\_DŁUG - Breeding Value for Longevity

Moreover, since the season 2016.2 long-awaited index selection for the Simmental breed started to operate. Index for Simmental "Production and Functionality" (**PFSM**) was constructed in accordance with the breeding goal as was defined in the Breeding program for Simmental cattle in Poland. The main purpose of breeding work on this breed is to achieve sustainable progress both in the milk and meat performance. Therefore, the index matched the corresponding „weight” to reflect the importance of production and functional traits covering health, fertility, longevity and conformation and its impact on milk and meat production in Simmental.

The formula of PFSM index is as follow:

$$PFSM = 0,40 * PI\_PROD + 0,35 * PI\_POKR + 0,10 * PI\_PŁOD + 0,08 * WH\_KSOM + 0,07 * WH\_DŁUG$$



The Polish Federation's Cattle Genetics Laboratory is the largest laboratory performing cattle genotyping services and at the same time the only one that is exclusive to breeders, which makes them unique

on a European scale. Therefore, it is entirely focused on satisfying the needs of Polish breeders. In 2018, LGB PFHBiPM was responsible for genotyping the vast majority of cows and heifers studied in Poland, which in practice is more than 3,000 genotyped animals.

### The number of genotyped females in 2015-2018

