

## **BREEDPLAN - OUTLIERS**

### **Verifying Outliers**

As part of the BRITISH CHAROLAIS BREEDPLAN analysis, on-going checks were undertaken on the pedigree and performance data on file.

In relation to performance data, the analysis statistically checks whether the animals in each analysis group are within an expected range for that group. These groups are supposed to represent animals of similar type that have had equal opportunity to perform under similar conditions. A certain degree of variation in performance is expected within each group, with the amount of expected variation depending on the trait measured. **Animals outside the expected range are classified as "Outliers"**.

You may notice Outlier records being generated from "old data", that is from historic performance data. These Outliers will be appearing because of either the inclusion of revised parameter files associated with BREEDPLAN software or because this performance data had not been previously checked and excluded.

The identification of outlier records in the BREEDPLAN analysis is aimed at highlighting potential data recording errors that may have occurred. Outliers may occur for a variety of reasons. For example:

- Incorrect measurements may have been recorded (e.g. transcription errors, data collection errors, data entry errors)
- Incorrect animal details may have been recorded (e.g. date of birth, sex)
- Animals may have been placed in an incorrect contemporary group
- Animals may be significantly genetically superior/inferior to their contemporaries.

Ignoring outlier reports is a common cause of performance recording problems. Make sure you verify/correct all outlier reports as soon as you receive them.

What happens to the outliers?

Each time an "outlier" is identified, an outlier report is forwarded to the relevant herd. This report gives the breeder the opportunity to correct or verify the performance for the "outlier" animal.

- If an error is discovered, the record will be corrected, and the updated performance included in future BREEDPLAN analyses
- If the record is correct and the animal is simply genetically inferior/superior, the outlier record will be verified on the BREEDPLAN system and included in future analyses
- If the owner does not correct or verify the outlier record with BREEDPLAN, the record will be removed from all future GROUP BREEDPLAN analyses.

## Checking an outlier report

When investigating an outlier record, you should check:

1. The performance information has been correctly recorded
  - Is the measurement correct?
  - Is the measurement date correct?
  - Does the measurement refer to the correct animal?
2. The animal details have been correctly recorded
  - Is the sex of the animal correct?
  - Is the date of birth of the animal correct?
  - Are the sire and dam of the animal correct?
  - Is the birth number of the animal correct? (i.e. twin vs single)
  - Is the birth status of the animal correct? (i.e. ET vs natural)
3. The animal is being analysed in the correct contemporary group
  - Has the animal had the same opportunity to perform as the other animals in the contemporary group?
  - Has the management group information been correctly recorded?
  - Has the animal been sick or injured?
  - Has the animal received preferential treatment? (e.g. been prepared for show/sale)
  - Has the dam of the animal received preferential treatment? (e.g. been prepared for show/sale)

**If you do not correct or verify the outlier record with BREEDPLAN, the record will be removed from all future GROUP BREEDPLAN analyses.**