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ANIMAL DATABASE MANAGEMENT PACKAGE IN MS ACCESS

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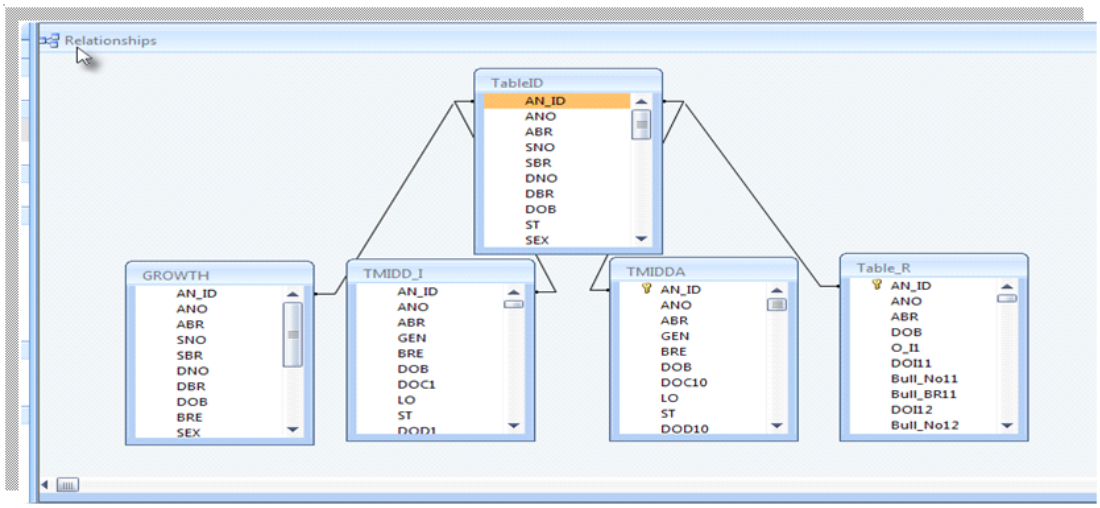
ABSTRACT

Development of database management software is an effective method to enter and retrieve information on each trait/animal, which subsequently adds to maintain animal health; to improve reproduction, genetics and milk production; and to optimize feeding in dairy cattle[1, 2, 5]. In India, efforts have been made to design herd management software at the CIRB, Hissar and at TANUVAS, Chennai. Chitale Dairy Farm, Pune is successfully using DeLaval ALPRO system for the recording of various information on buffaloes and reported 15% increase in total milk production. Many commercial livestock management software packages are also available in developed countries[4]. In New Zealand, the purpose of the dairy core database is to record the performance of New Zealand dairy herd and to evaluate the genetic worth of cows and bulls[6]. The requirement of database, however differs from herd to herd, hence, a database package was developed at IVRI in MS Access (one of the modules of MS Office)[3], considering all the traits like growth, production, reproduction and health.

The present database is developed using MS Access features, by linking different datasheets of growth, production, reproduction and health information through primary (unique) key, available at first field on each sheet (Figure 1). The trait/s should be recorded considering the fact that each sheet has maximum capacity of 256 fields[3]. The primary key contains animal number, breed and date of birth in single field. Animal Identification MS Excel Sheet (TableID – Figure 2) has been integrated through primary key (available on every sheet at first field) with records on growth (Growth Sheet), production (TMIDD_I Sheet containing records on monthly milk production up to 9 parities and TMIDDA Sheet containing records of parities 10 to 12) and reproduction traits (Table_R Sheet) of animals. Growth Sheet contains weight at birth and thereafter at 3 (WT3), 6 (WT6), 12 (WT12), 18 (WT18) and 24 (WT24) months interval along with primary key and pedigree information. Production Sheets contains basic information along with monthly milk yield according to lactation. Reproduction Sheet contains primary key, important base information and information on reproduction traits i.e. dry period, calving interval and service period according to lactation along with detail information on artificial insemination.

Figure 1: Relationship between different sheets (growth, production and reproduction)



Queries in MS Access, have been buildup for the calculation of milk production traits ($TLMY_i$- total milk yield in i^{th} lactation, lactation length etc.) and reproduction traits (AFC - Age at First Calving, DP - Dry Periods, Calving Interval etc.). These queries are effective within the Table i.e. generation of new trait is not possible across the sheet. Sheet TMIDD_I, can be used to calculate AFC, lactation length (LL_i) and total milk yield up to different lactations ($TLMY_i$). Up to 16 traits can be calculated from this sheet at a time. Up to 16 traits can be calculated from this sheet at a time. The details of calculations are given below:

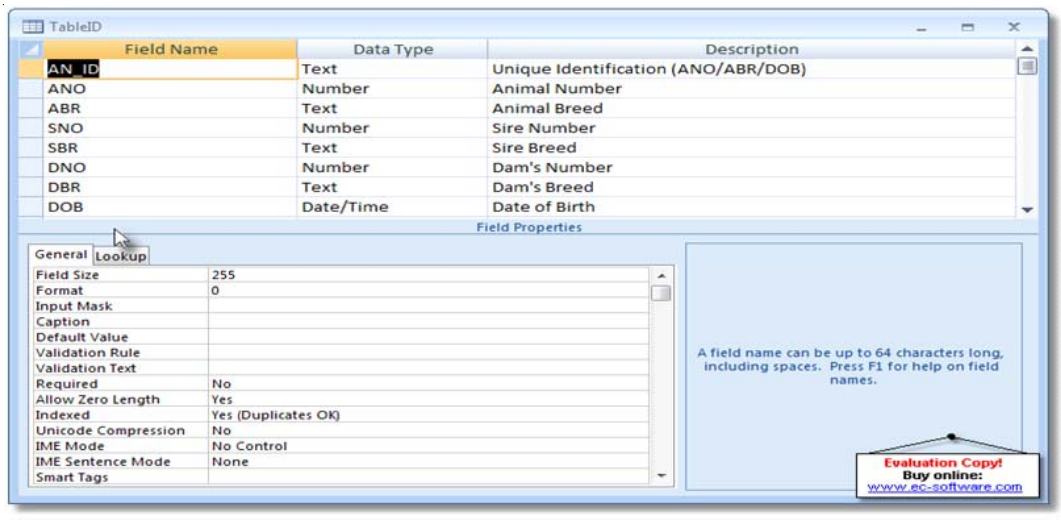
LTLMY (up to 9 lactations): ([TLMY1] + [TLMY2] +[TLMY3]+ [TLMY4] + [TLMY5] + [TLMY6] + [TLMY7] + [TLMY8] + [TLMY9])

AFC: ([DOC1]-[DOB])

LL1 (Lactation Length in first lactation): ([DOD1]-[DOC1])

However, desired data across the tables/ queries may be procured by selecting traits from different data sheets through relationship governed by unique primary key (animal no/animal breed/ date of birth) for creation of report.

Figure 2: Showing details in Main sheet (TableID)



The developed package has made us self dependent to record and retrieve information on different traits of interest without incurring extra expenditure. This has made possible to acquaint with the performance of herd instantly to take up the corrective measures. Furthermore, obtaining specific set of data is possible through this package that can be further statistically analyzed for other purposes.

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