This spreadsheet calculates the number of heifers needed as replacement to maintain constant the herd size in the long run.

Input variables required are: 1) the herd size in number of adult cows, 2) the calf-heifer culling rate including deaths, 3) the average month time to first freshen, and 4) the adult cow’s culling rate including deaths (yellow cells). The spreadsheet calculates the required replacement animals (orange cell).

The spreadsheet includes sensitivity tables and figures varying three main variables: 1) cow culling rate, 2) calf-heifer culling rate, and 3) age to first freshen. Cow culling rate is varied 5 and 10% above and below input data, calf-heifer is varied 2 and 4% above and below input data, and age to first freshen is varied 2 and 4 months above and below input data.

The middle point in tables represent the input data (orange cells), which will increase with higher cow culling rates, higher calf-heifer culling rates, and higher months to first freshen. Likewise, it will decrease with lower culling rates and lower months to first freshen.