Molted feathers obtained with noninvasive genetic sampling are valuable tools for genetic analyses on birds. However, the low quality and quantity of DNA obtained from molted feathers poses serious limitations. In this study, we compared the quality (amplification success) of DNA obtained from molted feathers, plucked feathers and blood samples, as well as the feasibility of these methods. Molted feathers of Ruddy Shelduck (Tadorna ferruginea) were collected (n=74) around Lake Burdur during 2014-2015. As non-destructive sampling we used feathers plucked (n=12) from chests of domestic chicken (Gallus gallus). Blood samples were also taken (n=2) from domestic chickens. Evaluation of DNA was performed by amplification of CHD specific 2550f-2718r markers. While molted feathers did not yield any DNA, we could successfully amplify all the samples from plucked feathers (Ş=10, ^=2) and blood ( ^=2). Blood samples produced stronger bands in gel. In terms of utility and the quality of the obtained DNA we concluded that blood samples yields the best results, followed by plucked feathers and molted feathers.