

B. Summary

In 2004 and 2005, there were approximately 200 institutes (197 and 198 institutes respectively), in which vertebrate animals were used for scientific purposes in Taiwan. Among these institutes, colleges were the most, accounted for 1/3, followed by a variety of pharmaceutical related companies (approximately 1/4), non-profit research organizations ($\geq 1/5$), and medical centers ($\geq 1/8$) (Fig 1).

It appeared that over 60% of the laboratory animal facilities in the Taiwan's institutes were very small. As indicated in the figure 2, one third of the institutes only consisted of "mini rooms" for animals and less than 1/2 of the institutes owned the animal facilities larger than 170 m². In either 2004 or 2005, 1.2 million laboratory animals were used. Colleges and non-profit research institutes increased their needs for animals but pharmaceuticals decreased dramatically (Fig 3). However, less than 20% of the institutes used more than 5,000 animals/year (Fig 4). This may be the reason for that most of the institutes have not invested full-scale animal facilities.

Most of the animal users procured animals from the domestic vendors, however, approximately 1/5 of the animals being used in these 2 years were supplied by institutes themselves (Fig 5). This might be due to that the use of genetically engineered animals became popular.

The meetings being held by institutional animal care and use committees (IACUCs) were 1.8 times in 2004 and it increased slightly in 2005 (1.9 meetings) (Table 1). When accumulated nationwide, 3,669 and 3,923 proposals for animal studies were reviewed by the IACUCs in 2004 and 2005 respectively (Table 1). Interestingly, the IACUCs of industrial private companies had significantly more meetings than those in academia (Table 1). In these 2 years, there was no significant difference in the ratios of proposals being approved directly, approved with revision, or rejected (Table 1). As indicated in Table 2, IACUCs also performed other services. Among them, inspection of the animal facility was the most, followed by the suggestion on animal care and consultation on experimental design.

Various vertebrate animals being used was listed in Table 3. In 2005, a new species, .i.e. ferret, was introduced into Taiwan. Table 3 also indicated the numbers of each kind of animals being procured, sacrificed during or after the experiments and kept survival as well. In general, farm animals for agriculture research did not kill after the studies, especially those large animals. In addition, the way animals died was calculated (Table 4). It was not only classified by the methods of euthanasia, but also recorded the animals either expired during experiments or died naturally. It was surprisingly that there were 9.2% of the animals died naturally in the animal facilities in 2005. This was twice higher than in 2004. It is necessary to have a further investigation to understand if this was due to the insufficient animal care or other reasons.