RESULTS OF QUAIL FEEDER PROGRAMS AS REPORTED BY QUAIL FEEDER PERMIT HOLDERS

O. E. FRYE, JR., Florida Game and Fresh Water Fish Commission

Proc. Annu. Conf. Southeast. Assoc. Game & Fish Comm. 4:162-165

A special regulation passed by the Game and Fresh Water Fish Commission in 1950, enables private individuals to operate quail feeder programs under a special permit system. In March 1951 all such permittees were sent a questionnaire requesting information about certain aspects of their feeder program. It was felt that information from this questionnaire would serve as a useful supplement to the quail feeder research being conducted by the Game and Fresh Water Fish Commission.

Replies were received from 37 of the 88 questionnaires mailed. Thirty of the 37 questionnaires returned were filled out. Since operators frequently failed to answer all questions, there is given the number of reports upon which the answer to each question is based. Following is a list of the questions asked on this questionnaire and a discussion of the answers received:

1. When was your feeder program started?
   Only questionnaires from individuals whose feeder program has been in operation for *one* breeding season were considered in this tabulation of data.
2. What is your estimated annual cost of operating each feeder?
   Based on 24 reports, the average estimated annual cost of feed per feeder was $8.91. Based on eleven reports, the annual estimated cost of labor for each feeder was $7.21.
3. How many feeders do you operate?
   This number varied from one to 150.
4. What is the acreage of your feeder area?
   This acreage varied from one acre, (one feeder maintained in a backyard) to 11,000 acres.
5. What type of feeder do you use?
   Fifteen cooperators reported using shelter-type feeders, twelve garbage can-type feeders, and one both types.
6. Which type of feeder do you prefer?
   Thirteen cooperators preferred the shelter-type feeder, and two preferred the Scruggs-type feeder. This latter is a patented feeder built by Scruggs Quail Feeders of 5205 Nebraska Avenue, Tampa 3, Florida. It is modelled essentially after the original garbage can-type feeder, but it contains two major improvements that when perfected will undoubtedly render this type of feeder the most practicable yet designed, since it will eliminate the necessity of placing feeders in hog-proof enclosures and will render the feeders much easier to service.
7. Have you kept feed in your feeders continously since the project was begun?
   Eighteen cooperators answered yes, twelve answered no. Nine of those cooperators answering "no" kept feed out of their feeders for some specific

reason — the most common reason given was that the cooperators felt that there was no necessity to maintain the feeders during the fall abundance of quail food. Many reported a heavy drop of utilization of the feeders during this period.

8. What type of feed did you use?

   Eleven cooperators reported using cracked corn, twelve poultry scratch feed, one wheat, and six a combination of various other feeds including laying mash.

9. What type of food do you consider most satisfactory?

   Eleven cooperators preferred cracked corn, eight poultry scratch feed, and three some other type of food — wheat, commercial quail food and poultry mash.

10. To what extent did the following other animals and birds interfere with your feeding program?

    In calculating these figures a numerical value was assigned as follows: Much – 3; average – 2; little – 1; none – 0. In many cases, the evaluation of damage by a particular animal was not included in the questionnaire. This should not interfere appreciably with the final totals since it can be safely assumed that if the animal was not included its damage was probably not serious, and, since it was not listed it did not contribute to the total numerical value. By totalling all figures for all animals, the following answers were derived. These reflect by their size the relative importance of the different animals.

Other birds	— 58	Other Predators	— 17
Rats	— 49	Hogs	— 11
Raccoons	— 33	Hawks	— 11
Other (Principally Squirrels)	— 21		

The results from these questionnaires seem to bear out the observations of Commission personnel on other feeder areas that other birds, rats and raccoons seem consistently to be the cause of most food loss.

(In making calculations from questions 11, 12, and 13 only feeder areas of 200 acres or more were considered.)

11. Approximately how many quail were on your feeder area when you began your project?

    A total of 3,415 quail were reported by 19 cooperators.

12. How many quail did you release last year as breeding stock?

    A total of 294 wild-trapped and 66 pen-reared birds were released by 8 of 19 cooperators.

13. Approximately how many quail were on your feeder area at the beginning of the recently completed hunting season?

    A total of 6,925 were reported by 19 cooperators. This represents an increase of 102.7% in one year.

The figures given in answer to questions 11 and 13 are estimates made by various cooperators and are undoubtedly of variable accuracy. Certain of them, based on conscientious records of coveys found during the hunting season, are probably as accurate as most estimates of quail populations. There is the possibility that the setting up of a feeder program influenced the cooperators *estimate* of the population as much as it did the population itself. This could have taken place — for example — as the result of the cooperator being in the field more and consequently observing more birds, as a result of the birds already on the area being more conspicuous because of their usage of the feeders, or as a result of the cooperator's subconscious desire to attribute success to his feeder program This latter point is well illustrated by the following comparison of the reported results from the restocked areas and areas that received no additional birds.

The combined figures for unrestocked areas show that the original population of 2,155 birds increased in one year to 3,440 birds — an increase of 59.6%. On the restocked area the original population of 1,260 birds (with the help of 360 birds restocked) increased in one year to 3,485 birds. Presuming that the original birds on the restocked area increased at the same rate (59.6%) as those on the unrestocked area, we see that the original 1,260 birds would account for 2,011 of the 3,485 birds on the restocked area and that the *360 restocked birds* would have to account for the remaining 1,474. The error in this latter assumption is obvious. Therefore it appears highly probable that a considerable portion of the superiority indicated for the restocked area can be attributed to the fact that the cooperator expected an increase from restocking and so attributed his increase. Also, to be considered in this connection is the fact that those persons who felt that they had low populations on their areas would be the ones most likely to restock and that these persons may have underestimated their original populations.

Opposed to these possible errors in the estimates, it seems reasonable to assume that those cooperators whose quail population was actually lowest would be the ones most likely to restock. Therefore, since the lowest population would be expected to show the greatest percentage of increase with improved habitat conditions, it is quite possible that on the restocked areas there was actually a greater increase in the original population. If, as a result of increased carrying capacity brought about by the addition of feeders, the quail population was below the number of breeders the improved areas could support, then there is every reason to believe that the restocked birds accelerated this increase.

In the final analysis and after considering all possibilities or error in the estimates made by the cooperators — it appears very likely that even though the estimates are not accurate in detail they are adequate to reflect a substantial increase in the quail population. Of interest is the fact that the increase reported on the questionnaire are substantiated by data from experimental areas under observation by Commission personnel.

14. How many birds were bagged on your feeder area?

A total of 2,744 birds were bagged by fifteen of the nineteen cooperators whose feeder areas equalled or exceeded 200 acres.

15. What effect did the feeders have on hunting?

Eight cooperators reported that the feeders made birds easy to find, two reported that they made birds difficult to find, and fifteen reported that the feeders had no appreciable effect on hunting. Observations by Commission personnel indicate that this latter situation generally prevails.

16. In general, has your feeder program been successful?

Eleven cooperators reported that their program has been highly successful, fourteen reported that it has been fairly successful, and one reported that it is a failure.

The person reporting a failure with his feeder program stated that of twenty birds shot on the feeder area, only two contained corn. He also remarked that feed was not kept in the feeder during the rainy season, which is the summer breeding season in South Florida — the location of his feeder area. Since our observations indicate the primary importance of the feeders lies in increasing quail reproduction, the fact that feed was not kept in feeders during the reporductive period might very well account for this failure.

17. What has been the principal obstacle to conducting your feeder program?

Most cooperators seemed to be very well satisfied with the feeder program and felt that the expense and effort of maintaining the feeders was made worth while by the number of birds produced. On the other hand, many remarked about the amount of feed wasted by other animals, the difficulties of keeping feed dry during rainy periods, and a variety of other less important difficulties of feeder operation.