The report of this meeting is going to be decidedly the best one of the three.

There is talk about raising the membership fee to \$2 next year, and possibly establishing a monthly magazine into which such papers will go, but that is purely speculative as yet.

I do most earnestly hope that every one present who has not already joined will take a membership. It is worth a great deal to you, and it means a great deal to this movement.

I will now present the Report of the Committee on Cooperative Work in Animal Breeding.

REPORT OF THE COMMITTEE ON COOPERATIVE WORK IN ANIMAL BREEDING.

By W. M. HAYS, *Chairman, Washington, D. C.*

Your committee on cooperative work in animal breeding begs to report as follows:

The subject assigned to this committee is new. Since only one suggestion for cooperative organization in breeding has been presented in a formal way and that following the lines of a contract entered into between the U. S. Department of Agriculture and the Minnesota Experiment Station, this report of progress will be confined mainly to a statement of that plan, together with arguments for and against it as a plan for wide use.

COOPERATIVE CIRCUIT BREEDING.

Under the name *cooperative circuit breeding*, it is proposed to organize associations and that public institutions shall assist these associations. Under this plan it is suggested:

1. That there be organized, in a group of a dozen or less counties, preferably centered about an experiment station, a cooperative association of 20 or more farmers who care to breed a given class of pure-bred live-stock.

2. That each member agree to purchase and enter into the association circuit at least the minimum number of approved animals; for instance, in case of cattle and swine one male and at least five females; in case of sheep one male and at least ten females; and in case of horses at least three females, males to be owned jointly or individually, or even by the assisting institutions.

3. That the members individually and as an association agree to enter into cooperation with the State experiment station and the United States department of agriculture (or other institutions), and to breed, care for, test and dispose of circuit-bred live-stock under

such rules and regulations as may be provided by council representing the association, the station, and the department.

4. That the Department of Agriculture and the State Experiment Station join on something like equal terms in cooperating with co-operative circuit associations organized to breed live-stock, providing public money for general expenses and providing plans which will be continuously pursued in efforts to produce strains of animals superior for general, wide, economic production and use.

5. That the use of public money be confined to general current expenses as of supervision, testing, valuing, recording, working out uniform methods of feeding and of guiding the breeding in lines of public interest, that large numbers of superior animals may be made available to breeders at reasonable prices.

6. That articles of association, of legal incorporation—of agreement between the Department and the Station, and of agreement among the Department, Station, and Association be executed.

7. That a council of three be created, one representing the Station, one the Department, and one the Association, and that this council make rules and regulations for the government of the circuit project, and that the council employ a circuit superintendent as their executive officer.

8. That the circuit superintendent, acting under the council shall cooperate with the individual breeders in making purchases, in methods of feeding and care, in breeding, in testing and valuing, and in selling their animals so as to apply uniform and efficient methods of the work of producing a breed of greater value to those who wish to secure valuable foundation stock for purebred herds and flocks and to those who produce and use animals and animal products.

9. That the principles of animal breeding may be thus further studied and emphasized under formal records, and that the business practices needed in the creation of improved stocks of pure-bred animals and in the production of useful animals and animal products may be further developed.

For the most part the discussion, both oral and by correspondence, has been very favorable to the plan. One experiment station officer expressed the fear that it would tend to limit or suppress the occasional genius, as Cruikshank; that such men could not effectively work under it. In reply it has been suggested that men not desiring to work in cooperation, or adapted only to working alone, would have quite as free a field as now. It is further suggested that a man with a genius for breeding and also for serving as a superintendent or as a leader within the association will have a much enlarged opportunity to aid in creating new types of peculiar breeding power and value. It is also urged that the results of the work of men of peculiar genius would be better preserved upon their leaving the business, and that much wider use than now would be made of important improvements whether originated within or outside the circuit organization.

Another experiment station official suggested that there are not

available the necessary number of men trained for the work of directing and superintending the proposed projects. While it must be conceded that our colleges of agriculture have not trained men for this specific service, it is certain that they could do so. All new enterprises would fail if the business did not in part create the men. Our agricultural college men could rapidly turn the attention of many young men toward this service.

This cooperative Circuit scheme of animal improvement would accomplish a number of important things:

(1). It leaves the pure-bred animal business in the hands of private individuals, thus retaining in action the full power of private incentive.

(2). It preserves the farmers who become cooperators in the status of individualism in cooperation, rather than service under the government or service in corporations.

(3). It will give to those who train themselves for the work of superintendents splendid opportunities for most useful public service and for advancement in a wonderfully interesting field of labor.

(4). It will greatly accelerate the development of a science and practice of animal breeding for use by private as well as cooperative breeders.

(5). It will give to numerous localities superior stocks and breeds of animals which will give them besides fame and pride in local affairs large profits from the sale of pure-bred animals as the counties of Durham or Lincoln or the Island of Jersey have profited from pure-bred Shorthorn cattle, Lincoln sheep, or Jersey cattle.

(6). With the development of high-class herds under government supervision will come the better training of the community in appreciation of skill in the breeding and care of animals of superior excellence.

(7). The great prime result will be the production of numerous types of animals, more useful than those now existing to all who produce and those who consume live-stock products.

(8). Instead of lessening private enterprise in creative breeding and in the production of pure-bred breeding animals, a large number of cooperative breeding circuits would greatly accelerate this interest.

(9). Private breeders of pure-bred stock, and farmers needing pure-bred sires would find it a very great advantage to have sources of highly authenticated breeding stock which would bring to their herds blood of proved practical excellence and reputation backed by authenticated certificates of excellence.

(10). The performance pedigree records built up from the tests employed in singling out the best blood lines of each circuit and making of it the whole of the circuit breed will form a most potent agency to aid in the wider dissemination and use of superior animals.

(11). The show, the sale ring, the advertising journal, and the

private sale would have at every point added dignity and power for advancing the live-stock interests of the country.

(12). Since we have the leading place in the world in agricultural and live-stock production and since our home demand for superior pure-bred stock is the largest, it is but good Americanism that we develop the cooperative circuit plan or some more still comprehensive scheme for world leadership in the creation of new live-stock values and in the international sale of pure-bred live-stock.

WHAT POULTRY BREEDERS CAN LEARN FROM CATTLE BREEDING.

By ROSWELL H. JOHNSON, *Cold Spring Harbor, L. I.*

If we consider the aims of commercial poultry breeding and cattle breeding, a close parallelism is found, since the products are in each case meat from the males and a food product from the living females that is highly variable in quantity. There are of course some differences, such as the age in coming to maturity, the time during which high production is maintained, the different qualities of the product, the amount of product from each individual and its consequent value. These are hardly such differences as one would expect to alter materially the methods of breeding, yet there is a great contrast in conditions. The question arises: Do these conditions differ because of adaption to the different materials or because they represent different stages of development in the practice of breeding? Let us draw a parallel.

CATTLE. 1. *Quality of Stock.* POULTRY.

A large proportion of cattle growers use males, at least, which are of breeds that have been selected more or less closely with an end in view.

A large proportion of poultry growers use such stock as they or their neighbors have had for years. When selected stock is purchased, it is seldom bought from those who breed for commercial qualities, but from a fancier who has other ends in view.

2. *Selection.*

A large proportion of cattle growers practice some selection in retaining the calves from the dams which are best for their purpose and give thought to the choice of sires.

Selection is practiced by the poultry grower in a large proportion of cases only in a rather indiscriminating way. The hens that have laid the largest number of fertile eggs in April and May and those that are adept in stealing out their nests are more likely to be the dams, and the handsomest cockerels or the one not killed because at the farther end of the roost is likely to be the sire.