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EC1492 Baby Chicks - - Start Them Right

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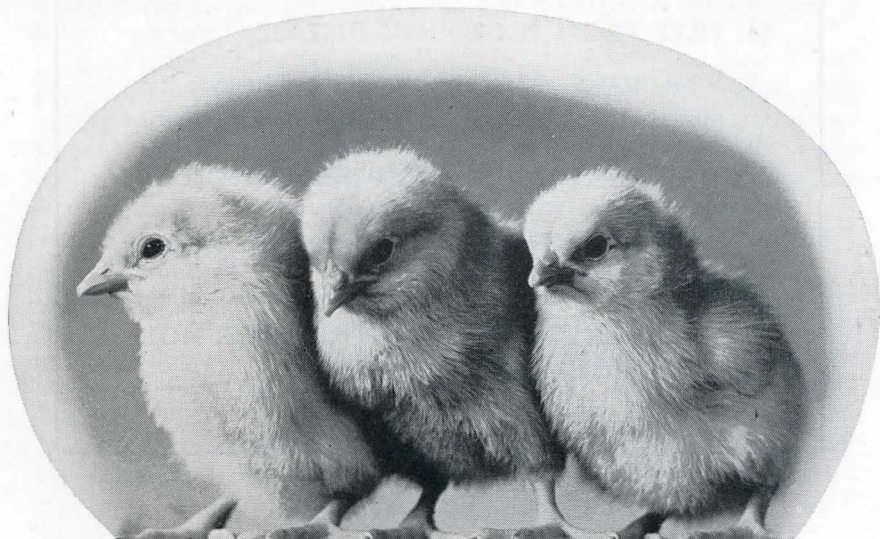
E.C. #1492

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Extension Circular 1492

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Baby Chicks - - Start Them Right



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GOOD BABY CHICKS

1. FREE FROM PULLORUM DISEASE.
2. VIGOROUS—reflected in a full, bright eye; long, downy fluff—not sticky; plump, well filled shanks.
3. WELL HEALED NAVEL—indicating good yolk absorption.
4. INTENSIVE PIGMENTATION IN SHANK AND BEAK.
5. 100 CHICKS TO WEIGH 8 POUNDS OR MORE AT 24 HOURS OF AGE.

Baby Chicks--Start Them Right

R. A. BENTON

PROFITABLE POULTRY RAISING begins with the proper selection of chicks. Only the best should be purchased. Inferior chicks are expensive at any price. Chicks that are healthy, vigorous, and from parent stock that has inherent ability to transmit desired characters to its offspring, are desired.

Pullorum disease is one of the most serious diseases of baby chicks and causes severe losses during the first three weeks of the chicks' lives. Pullorum is transmitted to the chick through the egg. For this reason it is important to buy chicks from a hatchery which carries on a multiple pullorum-testing program under which all infected flocks are retested until clean and the reactors are disposed of before eggs are kept for hatching.

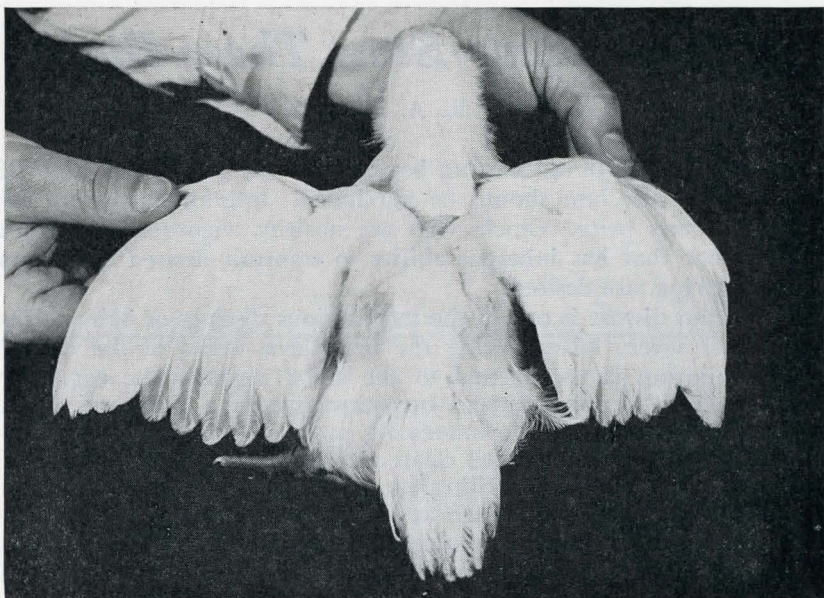
Hatcheries operating under an officially supervised poultry improvement program carry on multiple testing under supervision. Such a program sets up standards of production, sanitation, egg size, record keeping, and pullorum testing which flock owners and hatcheries must follow to obtain official approval. Cooperation in this program is voluntary and thus only those flock owners and hatcherymen who choose to place their operations under official supervision are subject to its control.

During the three years of 1944, 1945, and 1946, customers of the Nebraska hatcheries operating under supervision with 2 per cent or less reactors in their supply flocks, reported death losses during the first three weeks amounting to 3.18 per cent on 953,043 chicks started. This was 96.82 per cent livability.

In 1947, buyers of 992,437 chicks from all hatcheries under supervision reported a 3.2 per cent death loss, or 96.8 per cent livability.

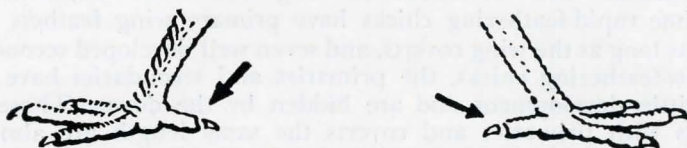
RATE OF FEATHERING

SOME CHICKS are slow-feathering and some are fast-feathering. It has been proven that fast-feathering chicks tend to grow faster. Rate of feathering is inherited. Some folks examine the chicks for this characteristic when the chicks are being taken from the hatchery. At this time rapid-feathering chicks have primary wing feathers about twice as long as the wing coverts, and seven well developed secondaries. In slow-feathering chicks, the primaries and secondaries have made very little development and are hidden by the down. Those individuals with primaries and coverts the same length are also slow-feathering. At this time some of the fast-feathering chicks may be overlooked due to the difference in time the individual chicks hatched.

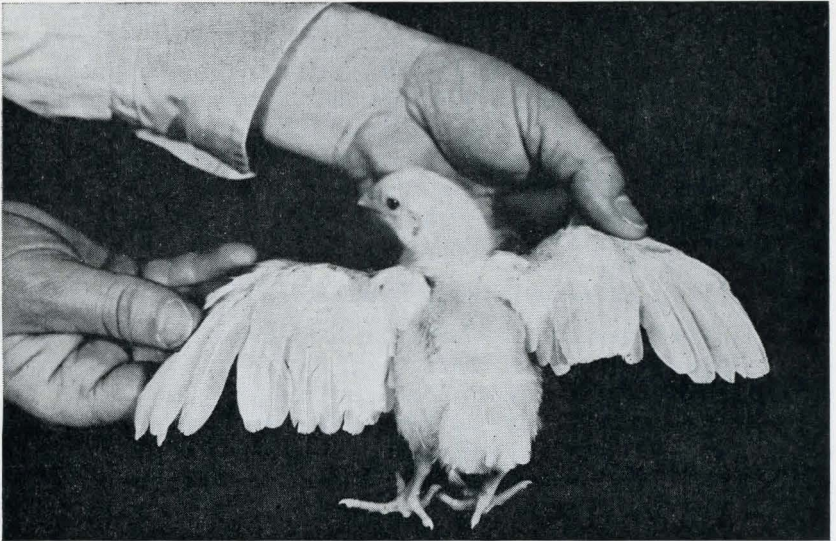


Fast-feathering 4-weeks-old chick with good back feathering.

A more accurate time to distinguish between fast-feathering and slow-feathering is at 10 days when those chicks with tail feathers at least one-half inch long are considered fast-feathering. At 4 to 6 weeks of age the completeness of back feathering is a final important indication of rapid-feathering. Where breeding flocks are kept, the largest of the fast-feathering cockerels should be selected and marked for breeding stock before any of the cockerels are sold or slaughtered. A simple and effective method of marking these cockerels is to clip off the left rear toenail with a pair of scissors or tin-snips if the tail feathers are one-half inch long at 10 days of age. If at 4 weeks the back feathers are well started, the right rear toenail may be clipped off. Two pounds at 8 weeks, $3\frac{1}{2}$ pounds at 12 weeks, or 5 pounds at 16 weeks are suggested weight goals for such White Rock or New Hampshire cockerels.



Fast-feathering chicks may be marked at 10 days of age by clipping off the left rear toenail, and at 4 weeks by clipping off the right rear toenail.

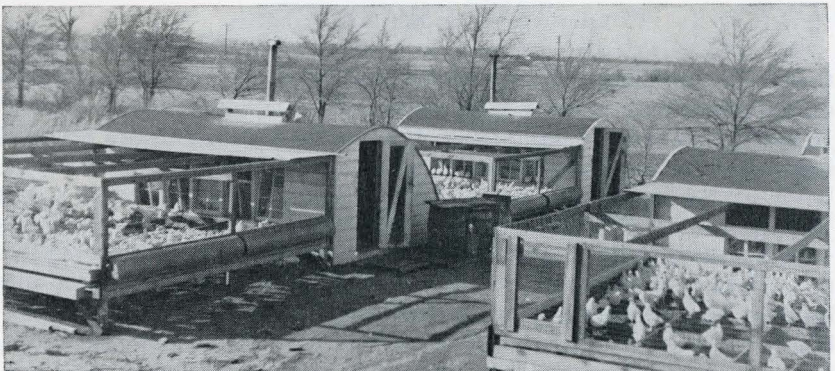


Lack of feathers on the back indicates this 4-weeks-old chick is slow-feathering.

ADEQUATE BROODER SPACE

CARE SHOULD BE exercised in determining the number of chicks to be placed on a specific floor area. Probably no single mistake is more common than the tendency to put too many chicks in the brooder house. Increased losses, uneven growth, slower growth rate, slow feathering and cannibalism must be expected if the house contains too many chicks for its size.

A common standard is to allow 1 square foot of floor space for each 2 to 2½ chicks. On this basis, as an example, a 10' x 12' brooder

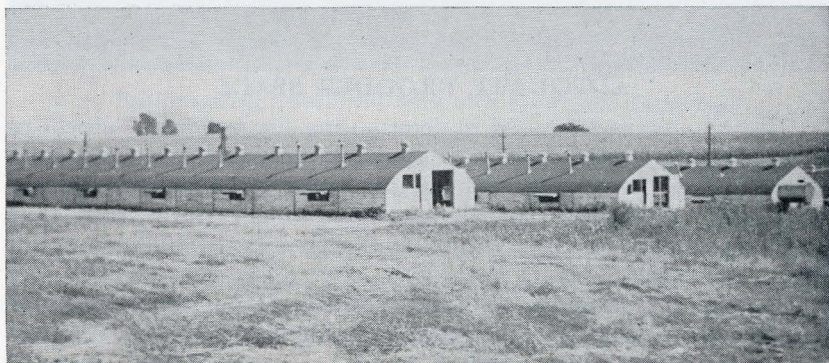


Sun porches in use.

house will house 250 to 300 chicks. As the chicks grow, overcrowding becomes more serious and more space must be provided. When they are 6 to 8 weeks old, the chicks will require double the amount of space they had when started. The use of a 9' x 12' range shelter alongside the brooder or a similar sized sun porch at the front of the brooder house will provide the extra room needed as the birds become older. Extra space may also be provided by removing, at 4 to 6 weeks of age, all cockerels not desired for breeding purposes and all pullet chicks exhibiting disqualifications or other undesirable characters.

BROODING IN LARGE UNITS

IN RAISING large numbers of chickens the trend is toward brooding chicks in larger units as a "labor-saving" method. Larger houses are used and a series of brooder stoves may be used in the same room. To keep the young chicks separated and close to the source of heat a cardboard draft shield is placed around each stove. When the chicks need more room the draft shields are removed and the chicks are permitted



Large-type 20' x 300' brooder houses.

to run in one flock. Where houses are 20 to 24 feet deep and 400 chicks are placed under each brooder, the stoves are usually placed 12 feet apart. Thus a large house 100 feet long would need 8 brooder stoves for starting 3,200 chicks.

GETTING THE HOUSE READY

SANITATION is the key to success in rearing chicks. In preparing for the chicks it is absolutely necessary to clean and then disinfect the brooder house. This is done by scraping, scooping, sweeping, scrubbing and then disinfecting. It is necessary to first scrape all lumps of dirt and filth from the floor and walls, since a disinfectant will not penetrate through them. When the house is thoroughly clean and swept



Brooding in large units aids in saving labor.

out, scrub it with an old broom using a solution of scalding lye water (one can of lye to 12 gallons of water). Be sure that this gets into every crack and crevice. Sunshine is an excellent germ destroyer and following the cleaning with lye water, the house should be kept open until dry. All feeders, waterers, sanitary platforms, and other brooder house equipment should be cleaned and disinfected the same way. Furthermore, the feeders and fountains should be cleaned out and rinsed in a chlorine solution each week while in use.

PROVIDING LITTER

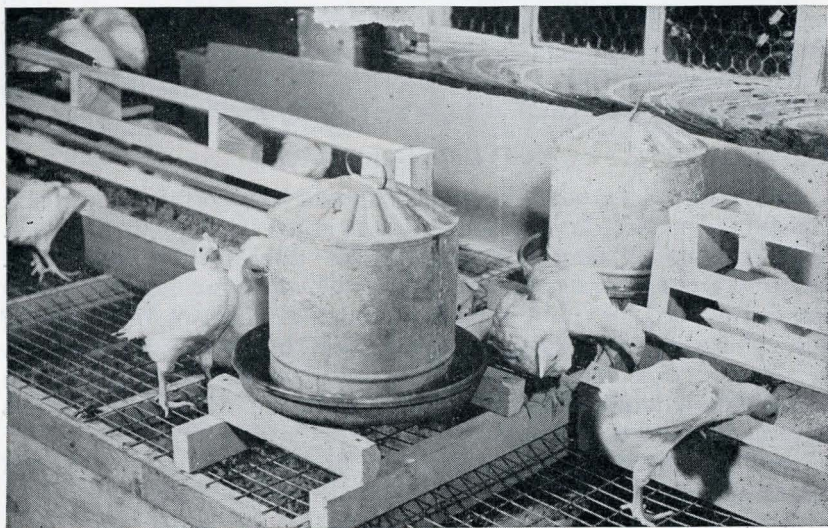
LITTER for the brooder house floor should be absorptive and coarse enough to permit the droppings to sift down through to the floor. The built-up or deep litter system has proven very satisfactory. Coarsely ground corn cobs, shavings, straw, and peat moss are litters commonly used. Start by spreading about 2 inches of litter on the floor. More can be added as needed. Stir the litter every few days to aid in drying and remove wet or soiled spots. With this system it is generally unnecessary to clean out the litter until after the pullets have been taken to the range.

Built-up litter proves more satisfactory where screened-in roosts can be installed at the back of the brooder house. Platforms covered with half-inch mesh wire, on which are placed the feeders and waterers, will aid in keeping the litter drier and more sanitary.

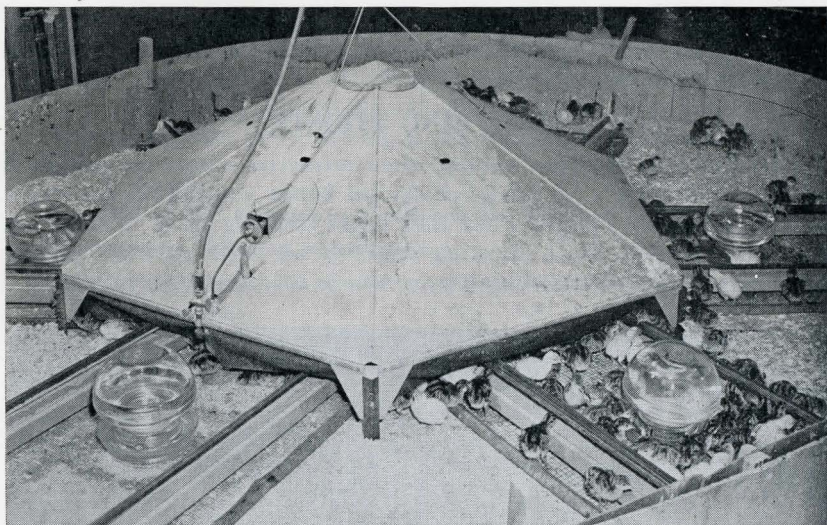
PROVIDING FEEDERS AND WATERERS

AFTER THE LITTER has been spread, the waterers and feeders are ready to be placed for use. Put them in places convenient for the chicks. Some folks arrange the feeders outward from the hover like the spokes of a wheel. Placing feed on clean egg case flats or paper may aid chicks in starting to eat. For continued growth and best gains it is important to have plenty of feeder and waterer space for the chicks. To begin with, chicks should have 1 inch of feeder space each and by 8 weeks this should be increased to $2\frac{1}{2}$ inches of space per bird. One-half inch of space per chick on waterers should be provided and this space should be increased as the chicks grow older. For sanitary purposes the feeders should have a reel or other device to keep the chicks out of the feed. These feeders should also have lips on the trough to prevent feed wastage. Feed wastage can also be kept to a minimum by filling the feeders not more than two-thirds full.

To aid in sanitation, the waterers and feeders should be placed upon elevated screen platforms which prevent the chicks from getting into wet litter around the waterers and from picking up feed spilled from the feeders. These platforms should be covered with 1" x 2" mesh wire. For the first 2 weeks it may be necessary to lay half-inch mesh hail screen over the platform. These screen-covered platforms can be 3 to 4 inches high when chicks are 2 weeks old. They can be raised to a height of 12 to 16 inches when the chicks are 4 to 6 weeks of age.



Waterers and feeders on screened-in platforms.



A method of arranging feeders and waterers outward from the hover.
Draft shield is in place.

HEATING THE HOUSE

BEFORE THE CHICKS arrive, the brooder stove should be set up and checked over carefully to see that everything is in order. The thermostat should be tested to see that it will expand when exposed to heat. The stove should be started at least 24 hours before the arrival of the chicks so that any adjustments necessary may be made and the proper temperature obtained.

Brooding temperature is important. It is desirable to brood at the lowest temperature that will keep the chicks comfortable. The floor temperature of the brooding quarters determines the comfort of the chicks. The thermometer should hang at the edge of the hover with the bulb about 2 inches from the litter. Before the chicks arrive the stove is regulated to maintain a temperature of 95° F. Undoubtedly the chicks' behavior serves as the best guide in determining whether or not they are comfortable.

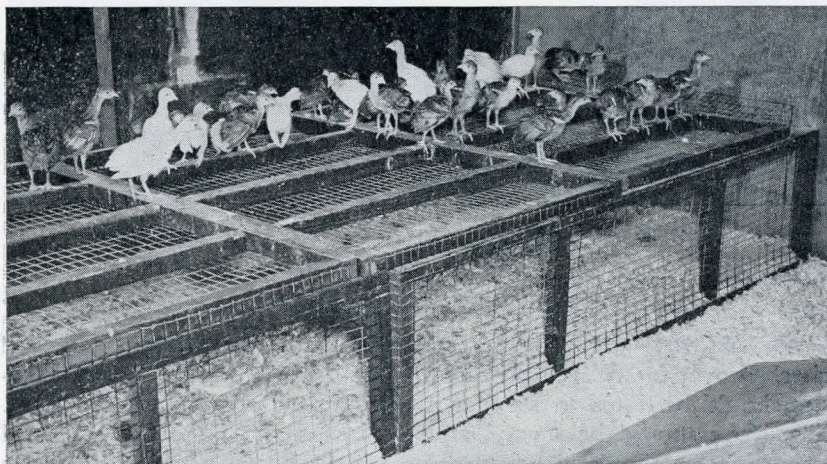
After the chicks are comfortably located in the brooder house it is customary to lower the temperature about 5 degrees a week until 70 degrees is reached. This temperature should be maintained until heat is no longer needed. This point will not be reached before the chicks are well feathered and roosting at about 6 weeks of age. If the brooding temperature has been decreased as recommended, brooder heat is not usually needed after the chicks are 6 weeks old.

For the first days of the brooding period it is good practice to place a draft shield in a circle about 3 or 4 feet out from the hover. This

will also help keep the chicks close to the hover until they learn the source of heat and will prevent any wandering away or piling in the corners of the brooder house.

PROVIDING ROOSTS

CHICKS LEARN to roost readily when attractive roosts are provided at the proper time. As a rule, chicks get better ventilation and grow and develop more rapidly when they begin roosting early. The age at which chicks will begin roosting depends on their growth and development and, to a considerable extent, on the weather conditions.



Screened-in roosting racks.

Screened-in roosts at the back of the brooder house are very desirable. They should be 10 to 12 inches high. When the chicks are 3 to 4 weeks old they will be ready to use the roosts. Be sure to supply enough roosting space. If roosts are overcrowded, some chicks will not learn to roost. Allow 35 linear feet of roost space for each 100 chicks up to 4 months of age and after that provide 50 feet per 100 pullets.

CANNIBALISM

CHICKS CAN READILY develop the habit of picking each other, especially in a period of confinement during bad weather. Crowding is an almost sure cause of this trouble. Other apparent causes are overheating and too dry air, insufficient feeder space or waterers, damp soggy litter, lack of fiber in the feed, excess light in the brooder house, or any condition which limits activity. If any of the chicks are picked so much that bleeding starts, the habit may spread quickly

among the rest of the chicks so it is important to be on the lookout at all times and to remove injured chicks immediately. Treat those that have been picked by smearing the injured part with pine tar or other healing agent disagreeable to chickens' taste.

For prevention of cannibalism the following practices are recommended:

1. Darken the windows to subdue the light.
2. Provide adequate ventilation.
3. Add a teaspoonful of salt to each gallon of drinking water until picking stops.
4. Give the chickens more room. Keep the chicks busy and encourage all exercise possible. Add a sun porch.
5. Feed greens frequently. Feed germinated oats, lawn clippings, or cut dandelions several times a day if chicks are 10 days old or over. Feed more milk, or add more meat meal to the mash to satisfy this abnormal appetite.
6. Provide enough feeders and waterers so that most of the chicks can eat and drink at the same time. Keep mash in the feed troughs at all times. Self-feed dry whole oats after the chicks are 4 weeks old.
7. Brood chicks at the coolest temperature they will stand.
8. Put in roosts and encourage the chicks to roost as early as possible.

FEEDING CHICKS

CHICKS ARE usually 24 to 48 hours old when removed from the incubator or hatcher. Such chicks can be held in chick boxes for 24 hours without serious damage. However, it is preferred that chicks be placed in the brooder houses, where feed and water are available, as soon as they are removed from the incubator.

The first feed may be a good dry mash mixture. When a finely ground mash causes constipation or "pasting up," feeding chick scratch mixtures is recommended. Chicks should have free access to this scratch mixture at all times.

If a dependable supply of sour skim milk is available, it may be fed to young chicks from the very start. When it is fed, however, a mash mixture containing less protein concentrate may be used. Feed milk in sanitary earthenware containers of suitable size.

At 2 or 3 weeks of age chicks may have a grain mixture of 2 parts finely cracked corn and 1 part whole wheat. As chicks develop, coarser grains may be used. Pullets on range may be fed whole grains.

Tender green feeds add bulk and vitamins to the ration and have a laxative effect which aids digestion and assimilation. Green feeds are

essential to the continued health and development of chicks, and may be supplied in the form of alfalfa, dandelions, or lawn clippings cut into short lengths. Germinated oats fed after 4 or 5 days of sprouting are relished by chicks 1 to 2 weeks of age.

Scratch grain may be fed in the mash hoppers on top of the dry mash. This reduces the danger that chicks will pick up disease germs when grain is scattered in the litter. Use waste-proof feed troughs and screened platforms to prevent waste and to insure sanitation.

Suggested feeder space per chick at different ages is as follows:

Allow 1 inch of feeder space per chick to begin with.

Provide 2 inches of feeder space per chick at 5 weeks.

Provide 2½ inches of feeder space per chick at 8 weeks.

Provide 3 inches of feeder space per chick at 12 weeks.

Provide 4 inches of feeder space per chick at 16 weeks and older.

CHICK MASH FORMULAS

	No. 7	8-S	No. 50	No. 51
Yellow corn	310	310	230	230
Shorts	200	200	200	200
Bran	100	100	100	100
Pulverized oats	100	100	100	100
Alfalfa meal (17 per cent protein +).....	100	100	50	50
Soybean oil meal.....	50	50	100	100
Corn gluten meal.....	—	—	100	100
Meat scraps	100	50	30	50
Fish meal	—	50	20	—
Distillers' dried solubles.....	—	—	30	30
"D" blend (200 A.O.A.C. units per g.)....	10	10	10	10
*Ash Mix No. 45.....	30	30	30	30
Total	1,000	1,000	1,000	1,000
*Ash Mix No. 45.....	Parts per 1,000			
Limestone	661.15			
Salt	330.55			
Manganese Sulphate	8.22			
Potassium Iodide	0.08			
	1,000.00			

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