thin out shoots repeatedly and vigorously. In warmer parts this bush is not so winter-killed as here, hence needs less cutting back.

*Berberry.*—Thin and shorten crop-shoots, reduce root-sprouts, remove suckers.

*Buddleya.*—Shorten shoots, disbud freely, and in event of winter-hurt cut hard back.

*Bush Honeysuckles.*—Prune freely when young, encourage broad rather than upward growth, afterwards thin out old and keep in young wood.

*Bladder Senna.*—Thin and disbud; promote a stocky rather than lax growth.

*Chaste Tree.*—Young plants may need some pruning, old plants need little.

*Cotoneaster.*—Thin out old wood and keep in young. In fall these are brilliantly berried.

*Currant.*—Thin and shorten, disbud, and if over-luxuriant, root prune.

*Cytisus nigricans.*—A lovely little shrub. After blooming cut off the branch tips.

*Daphne cneorum and mezereum.*—Get all the wood you can.

*Diervilla.*—Thin and shorten. In old plants prune but little till they finish blooming, then shorten back to good shoots; disbud freely.

*Dogwood.*—The "flowering dogwood" needs but little pruning; most of the other sorts want thinning and shortening, and, if over-vigorous, root pruning.

*Deutzias.*—Thin, shorten a little, reduce root sprouts; after blooming cut out old flower sprays to good shoots; disbud if needed.

*Elder.*—Thin; shorten; reduce root sprouts; remove suckers.

*False Indigo.*—Shorten a little; after blooming, cut off branch tips.

*Flowering Raspberries.*—Thin and shorten in winter and summer.

*Golden Bell (Forsythia).*—Sometimes thin and shorten in winter; prune hard when it has done blooming; disbud freely.

*Golden Rose.*—Prune to regulate the growth. Old plants need but little pruning.

*Hawthorn.*—Keep shapely and to single stems; cut out switchy shoots.

*Hydrangea.*—Paniculata needs cutting hard back in winter, and thinning, if needed, in spring; arborea and radiata, cut to the ground in winter, and rigorously thin when growing; quercifolia, thin if overcrowded, and Asiatic species in like manner, according to their hardiness.

*Hypericum.*—Thin out dead wood and old seed vessels.

*Itea virginica.*—Thin if needed, and remove old flower sprays.

*Japan Quince.*—Young plants, shorten; old plants, regulate.

*Kerria.*—Thin.

*Lilac.*—Regulate, and replace old wood by young.

*Magnolias.*—Keep to one stem; regulate, and promote an outward rather than upward growth.

*Matrimony Vine.*—Thin crop-shoots and root-sprouts.

*Small Buckeye.*—Thin sprouts if crowded.

*Mock Orange (Syringa).*—Treat like Deutzia crenata, only keep them down when young.

*Pea Tree.*—Prune but little.

*Privet.*—If for hedges, cut hard when young; if for bushes, promote a spreading, stocky growth by winter-thinning, summer-shortening and disbudding.

*Rose-Acacia.*—Regulate; recall wandering suckers; cut sickly branches hard back.

*Shadbush (Amelanchier), Snowberry and Spindle-Tree.*—Regulate.

*Spirea.*—Keep loose and thin in body, a good supply of last year's ripened shoots to blossom this year. When they have done blooming, shorten back the flower branches to good shoots; disbud where needed. Prevent a thicket of root-sprouts.

*Sumach.*—Dig out suckers of the staghorn type; the fragrant sumach may want a little crop-pruning.

*Sweet Fern and Wax Myrtle.*—Need no care.

*Tamarix.*—Keep in graceful form, but not as weakly withes.

*White Alder.*—Pick off old flower sprays.

W. FALCONER.

**Apples for Kansas.**—A correspondent of the Rural World says that of a hundred varieties planted soon after the first settling of the State, not more than a dozen sorts can lay claim to any merit. If planters had possessed the knowledge then that they have acquired by twenty years' experience, the income derived from orchards would have been more than quadrupled. The best results have been given by Early Harvest, Red Astrachan and Red June for summer; Maiden's Blush and Jonathan for autumn, and Winesap, Ben Davis, Rawle's Janet and Missouri Pippin for winter. The last named we suppose to be the variety described by Charles Downing on page 23 of his first appendix, and not the Nickajack, of which this name is sometimes used as a synonym. Among other sorts which appear to have succeeded well to a greater or less extent, are Willow Twig, White Winter Pearmain, Gilpin, Grimes' Golden and Baldwin. The last two are classed with autumn sorts in that State. The Baldwin had done well with only a few cultivators. We understand that one reason why the Missouri Pippin escapes the tree cricket, while other sorts are destroyed, is its want of high flavor.

**The Caroline Raspberry.**—E. Williams of New-Jersey writes to the Rural New-Yorker that this new variety, a seedling of Brinckle's Orange, appears so far to be very hardy and productive, and excellent in quality—the berry of good size and of a beautiful salmon color—and that it propagates from the tips of the canes as well as by suckers; indicating that it may have, by crossing, some of the cap-variety blood. In the same journal, . B. Mead says it is not remarkably productive, and that it is a rampant grower. It was originated by S. P. Carpenter of Westchester county, N. Y.

# The Entomologist.

## The Bean Weevil.

**Bruchus Fabæ.**

I send you specimens of field and garden beans grown this season. You will see by examination that they are full of what I call grubs. I have raised beans for 40 years, and never saw any thing of the kind before. If any of your subscribers have I should be glad to hear from them. I have put in some of the garden beans that the grubs have been through,—have done their worst and left. C. S. B.

*Northampton, Mass.*

[*Answer by* Prof. J. A. LINTNER, *State Entomologist.*]

The insect infesting the beans, is probably the *Bruchus fabæ*, Riley, known as the American bean-weevil, in distinction from a European species which has been imported, with seeds, in this country—the *Bruchus granarius*. Should it prove to be some other species, as is possible, the fact will be communicated when the beetle is obtained from the grubs which the beans contain—some of them showing through their thin outer envelope the cells of a dozen of the grubs or the pupæ.

This species was first noticed about twenty years ago in the New-England States. It has since been of common occurrence in the State of New-York, has frequently shown itself in Pennsylvania, occasionally in certain localities in the Western States, and once in Missouri, near St. Louis, according to Prof. Riley.

Although this insect is known in various parts of the United States, it is as yet confined to certain localities. Every effort should therefore be made to prevent its distribution. As some of the beetles do not emerge from the beans until spring, they are liable to be planted with the seed beans, and the evil may thereby be continued and increased. If the beans intended for seed be tightly tied up in stout paper bags and kept until the second year, there will then be no living beetles within them, and the beans will be equally valuable for seed.

## A Flight of Ephemera.

The following facts were given me by an intelligent and reliable farmer, and thinking some of the readers of the COUNTRY GENTLEMAN might find interest in them, I concluded to send them to the editor. In the spring of 1879, and again in 1880, there appeared on the Rappahannock river, in Essex county, Virginia, a most remarkable flight of insects. They flew in dense masses, and would settle on the river shore, on the walls of the barns and fences, and every object would be for a time covered with them, as if they were exhausted by a long flight. They were about an inch long, with prominent eyes; four wings, two long and two short; four legs, two before like antennæ; transparent wings, colored yellow and white, with black markings. Their bodies were of the same color, with two long spikes growing from their tails. This year they were followed by millions of swallows. They seem to be harmless to crops. Possibly some of the contributors to the COUNTRY GENTLEMAN have seen these curious insects, and can tell us what they are. E. HUNTER. *Essex County, Va.*

[*Answer by* Prof. J. A. LINTNER, *State Entomologist.*]

The above account narrates an unusual appearance of *Ephemera*, or, as they are sometimes called, from the early period at which some species appear in the spring, "May-flies." Many of the species of the *Ephemeridæ* occur in abundance, every season, in the vicinity of lakes and rivers, but as their flights seldom extend to a great distance, and the time of their appearance may be limited to two or three days, they often escape observation. It is only when they appear in unusual abundance that they attract general observation. In the latter part of June, 1880, a species was observed for a few days at a summer encampment at Lake Bluff, on Lake Ontario, in such numbers as almost to cover the tents and the surrounding foliage. Upon others of our lakes, their dead bodies have been cast up by the waters in windrows upon the shores. Several instances are recorded of their appearance in almost incredible numbers along the rivers in France. One account compares their flight to a snow storm of the largest flakes, and states that they accumulated on the ground about the feet of the observer to a depth of four inches—eyes, nostrils and mouth were filled by them. At another time they were so abundant in one locality in Carniola, in June, that twenty cart-loads were drawn away for manure.

Like the dragon-flies, to which the Ephemera are allied, in their early stage, they are aquatic forms. Their existence in this stage is quite long, often extending to two or three years, during which time, in one genus, they are said to undergo twenty-one moults. Their winged life is not limited to a single day, as might be inferred from their name, yet it is shorter than that of most insects. It is believed that some species do not live longer than a day, while others have been kept alive for a week, and it is stated that others have been known to live two weeks. The ephemera have long been known to furnish excellent and abundant food for fishes, and it appears from the account given above, that the swallows pursue them eagerly for food. These frail insects have a broad distribution over the world, from the tropics up to high northern latitudes. About two hundred species have been described, while the larger number, from the difficulties attending their study, are still undescribed. In Dr. Hagen's Synopsis of North American Neuroptera, published in 1861, forty-five North American species are described.

# The Poultry-Yard.

## Lice on Fowls.

It seems strange to me to see in the COUNTRY GENTLEMAN, every now and then, inquiries as to what will kill lice on fowls. Let me give you my experience with fowls; then you will see why these inquiries seem strange to me. Just about five years since I purchased a trio of Yellow Duckwing Bantams, a trio of Silver-Laced Sebrights, and a trio of Black-Breasted Red Games. When the spring of the year came I soon had chickens; it was not long before one or more began to be dumpish, would continually gape, and finally die. I could not account for it for some time, but one day, just after a pretty Silver chick died, I held it in my hand, and on thoughtlessly rubbing up the feathers a little, I saw something on its head, and quickly discovered it to be a patch of lice, boring into its head, which seemed to me quite enough to cause its death. Then I found some under its neck. It occurred to me at once that I had seen in the COUNTRY GENTLEMAN that kerosene mixed with lard enough to prevent its running, would not only kill lice on fowls, but the nits also. I tried it, and it thoroughly killed them. I now go over every brood of chicks, when they are ten or twelve days' old, and rub the kerosene and lard on their heads and under their wings, and wherever else I find lice. They look very rough for some hours afterwards, but it is not long before they look all right again. From the time I began to do this I have had no chickens gaping and dying. I lose chickens from time to time, and fowls, but not on account of lice. *J. J. Boston, Mass.*

## Poultry Houses.

The style and finish of the buildings intended for poultry depend much on the purse and taste of the owner. Comfort of the occupants should not be sacrificed, for without being comfortable the hens cannot long remain in profit. Avoid low or damp localities, as this gives roup, or brings on a low state of health, which invites disease, or results in leg weakness and emaciated birds, the progeny of which will be victims of the gapes, pip and similar diseases. The location should be on dry upland, gravelly soil, and be well drained. Fowls can endure much cold without serious injury, providing it be dry. The floor should not be of brick or cemented, but if a solid flooring be required, it may be paved with cobble-stones, deeply imbedded in gravel, and loose gravel or sand scattered over the surface, which can be removed once or twice a year and replaced with fresh. Over this air-slaked lime may be scattered liberally, or wood ashes. If coal ashes be supplied, place them in a box in one corner of the room. The box should be deep, that the fowls may not scratch them out over the floor. Fowls, when confined, are fond of scratching and picking among coal ashes. In them they find something that assists in the digestion of their food, while also finding employment.

The building should not be high or lofty, unless two-story. Eight feet at the peak is sufficient for all ordinary purposes, and should gradually slope down at the back or north end to about four feet. Here should be the roosts. The southern portion should be perhaps about five feet erect, and the glass windows inclined from this to meet the rafters at the peak. This plan gives the sun-rays directly on the ground floor, and on sunny days creates a great degree of warmth, if the building be made air-tight, or as nearly as can be with matched or battened boards, or what is still better, lathed and plastered. This warmth will be retained well throughout the night. The advantage of low roosts, close to the roof, is obvious. It is good for heavy breeds as well as light.

Directly beneath the roosting-poles should be a level scaffolding of smooth boards, to catch the droppings, and so close to it that the fowls may step from the roost thereon, and with a short flight alight on the ground. This scaffold should have firm supports underneath, or extend from cleats on the sides of the building, arranged for this purpose. It should be well covered with air-slacked lime, which holds and absorbs the moisture and odor of the droppings. In this manner they may be readily and easily removed each week, by scraping off into an empty barrel, and conveyed either to the compost heap or applied directly to the soil. This roosting arrangement is admirable for the large combed varieties. The nearness to the roof confines the heat that escapes from the body, and prevents freezing in the severest weather. At the same time, it is well adapted for the heavy birds. Disfigured feet and shanks are always unsightly, and should be guarded against as much as possible. The Houdans, too, are a heavy breed. Heavy and light breeds should not be congregated together in large numbers, if possible to avoid it. The nest-boxes should be arranged under the scaffold, and be somewhat shaded, as fowls like their places of laying quiet and retired. Their roosts, too, are better protected from the full glare of the light; but this is not important, as they soon become accustomed to and rather enjoy it, but at first it disturbs them a little. C. B.

## Value of the Large Breeds.

EDS. COUNTRY GENTLEMAN—In your issue of Dec. 9, 1880, page 791, I find some remarks on Difference of Profit in Breeds, by C. B., which I think are quite wrong. C. B. says first that we cannot have both egg and flesh in one breed; second, that flesh-giving birds are large, coarse-boned and long-limbed; third, that those who think the large breeds best have not served an apprenticeship; fourth, that large fowls usually lay small eggs, and fifth, that the Brahma will lay 18 or 20 eggs, and then sit. I will now try to show where he is mistaken, if your readers will follow me. In respect to breed, I will leave them to read what has been elsewhere stated in your paper. In respect to the second statement I must say that coarse, long-legged birds should not be kept, as they are of no use, either for laying or flesh, costing more than they are worth. As for not serving an apprenticeship, I have tested Brahmas for fifteen years, keeping them side by side with Games, Black Spanish and Hamburghs for eight years, and at last giving all up except the large breeds. In respect to large breeds laying small eggs, any one testing them, as I have done, will find that there is considerable in favor of the larger breed. My Brahma eggs average 2¾ ounces, and I can always get five cents more per dozen than my neighbors. At present I get 40 cents, while they are generally 35 cents anywhere in town. As regards the fifth statement, I will confine myself to the fowls kept here. January 2d, I bought seven hens and one cock, and from January 15th to April 18th I obtained 420 eggs. April 17th I bought 24 Light Brahmas which laid up to June 30th 1,183 eggs, when the first hen wanted to sit. Up to that time I had bought five hens for sitting. I set my first in March and got my first chickens April 16th, mixed Plymouth Rock and Brahma, with a slight strain of Leghorn blood. In July I killed seven out of the ten reared, when they weighed 4½ pounds dressed, ready for cooking. These brought me 35 cents per pound. This, I think, settles the laying qualities of large breeds. The farmers around my place would not believe t possible for me to get the eggs which I claimed, so I gave them the opportunity to come and collect the eggs to prove it, which they did at different times, and were convinced.

C. B. averages the price at 20 cents. I got from January to March 1st, 40 cents; from March to May, 30 cents; from May to July 1st, 20 cents. In respect to sitting, C. B. says that they are determined. I find them very easily broken up; putting them in a coop in sight of others, giving plenty of water, and no food except a few potatoes. It will cure them in two days, and they never, or hardly ever, go on the nest again. He says that the Leghorn pullet will lay at four months; the Brahma at six months, with the same feed. My Brahmas are laying at five months; the Leghorns have not commenced yet. I killed 32 chickens, all hatched in May and June; the Brahmas weighed from 3½ to 7½ pounds dressed; the best Leghorn only weighed 3¾ pounds dressed—all having the same treatment. Twenty Brahma and Plymouth Rock crossed brought me $11.32; the twelve Leghorns brought $7.56. In the morning I feed a mash of meal scalded the night before, fed warm. At noon, in cold weather, I give buckwheat, wheat, maize, oats, linseed meal, bone meal, charcoal, sunflower seeds and boiled liver. I never feed potatoes in cold weather. I give a good feed of grain at night. In warm weather I only feed twice a day. My fowls do so well that they have occasioned much talk around the neighborhood.

*Meriden, Conn.* B. W. R.