

the grape crop
at the low average
for four years.

entirely failed, as
want of intelligence
and, of its prepara-
the selection of the
the management of
n, by the statistics,
y about one-half as
anted each year—the
vineyards destroyed

en sustained, especi-
and Delaware vine-
vines to overbear;
the case in the fruit-
and '71, when many
to bear as much as
to the acre. This so
to induce disease of
y were unfitted to en-
the winter of 1872-
action of the wood in
the buds in the major-
the past season was
th of the usual aver-
h, or one-third to a
localities.

— Much interest was
annual meeting of our
ciety, by reports of
th the use of sulphur
at the islands. It
e grape-growers from
the vines had been
tent for several years
judiciously done, it
preventative of mildew
nit, and also of the
age; and where this
2, the vines ripened
as to suffer but little
er, and thus produced
eyards not sulphured
These facts will cause
sulphur hereafter, and
expected therefrom.
mix sulphur with an
air-slacked lime, and
h a bellows, of which
y cheap style for the
application is made as
re off in June, and re-
or so during the sum-

expense are quite small
benefits; and the prac-
o grape-growers gene-
arities that are sub-
lighting of the foliage.
eriment a trial and re-
ear.—M. B. BATHAM,

FRUIT SOCIETY.

hibition of the Toronto
the quality of plants
order of merit, and the
must have been highly
mittee. It is a great
ad these flower shows
what is more enjoyable
and floral display.
encouragement is given
flowers. Small cottage
fortnightly or monthly
ge cities, especially in
hibitions are held, at
of the crowded courts
big city, exhibit plants
in their closely packed
side in these small local-
s most pleasant to wit-
reely a house, or rather
ded courts of the poorer
metropolis, but where
n nearly all the year
sion. Surely something
way of holding small
wns and villages in this
by a taste for flowers
to a greater extent than

THREE APHIS.

ase tell us though the
w concerning the little
hich are found on the
erry leaf, causing it to
the fruit on our trees.
eignty have been very
for several years past,
ighbors have found a
not as yet discovered
eason, but expect them

every day and wish to be prepared to receive
them. An early answer will much oblige an
old subscriber.

F. AINSWORTH.

North Amherst, Mass., June 4, '74.

REMARKS.—The lice which injure your
cherry trees can be killed by a strong wash
of whale oil and soap suds, if you can get it
on them, which is quite difficult, as they are
pretty well protected by the curl of the leaf.
Another way would be to clip off the ends
of the twigs with a long-handled pruning
shears, and then crush the lice under foot.
This might be more practical than the wash,
as the lice commence operations on the ends
of the twigs where the leaves are most ten-
der. A few years ago, the cherry tree in
this vicinity were nearly ruined by these
black lice, but, for the past year or two,
they have not been very numerous. Perhaps
you may escape this year. Nearly all insects
have their parasitic foes, and it is not impro-
bable that these cherry lice have been re-
duced by some such enemy.

CLOVER AS A FERTILIZER.

Dr. Voelcker, the able chemist to the
Royal Agricultural Society of England, by a
series of the most exhaustive analysis of
soils and of plants, has discovered and es-
tablished the fact that an immense amount
of nitrogenous food accumulates in the soil
during the growth of clover, especially in
the surface soil; amounting, including that
in the clover roots and tops, to three and a
half tons of nitrogen per acre; equal to four
tons and a third of ammonia. These re-
sults, verified and proved, came almost like
a new revelation in farming. Dr. Voelcker
says that the farmer who wishes to derive
the full benefit from his clover hay, should
plough it up for wheat, or timothy, as soon
as possible in the autumn, and leave it in a
rough state as long as is admissible, in order
that the air may find free access into the
land, and the organic remains left in so much
abundance in a good crop of clover, be
changed into plant food; more especially
that the crude nitrogenous organic matter
in the clover roots and decaying leaves may
have time to become transformed into am-
moniacal compounds, and these in the course
of time into nitrates, the form in which ni-
trogen is assimilated by cereal crops.—*Mass-
achusetts Ploughman.*

PACKING PLANTS TO TRAVEL LONG DISTANCES.

In packing plants for transmission to dis-
tant places, Dr. Thuber says there is more
danger from too much than from too little
moisture. The best packing material is
sphagnum or bog moss, and this should be
just so damp only as to be elastic to the
touch. Plants packed in this, if not too
damp, will remain for weeks uninjured; that
is, if the plants are at rest. Another thing
is to pack close. If sending by post, take a
piece of strong brown paper; lay the just
wet—not damp—moss upon it; put the
plants upon the moss, and more moss over
the plants. Then begin at one end of the
paper and roll up hard, secure with a string,
and then put another paper over for direc-
tions. So, in packing in boxes, use the moss
just damp, and have the box full and cram-
med down hard, so that there can be no pos-
sibility of moving or shaking in transit.

LUCERNE.

The editor of the *American Farmer*, Bal-
timore, thus briefly gives his experience of
the value of Lucerne:

"We staked off a patch of this, less than
one-sixth of an acre, and had it cut and fed
to one horse and cow, the one cutting sup-
plying the two head for fourteen days. The
average height of the Lucerne was about
thirty inches, and though we have had no
rain since, the height, as we write (prior
to the first of July), is about ten inches.—
We cut our Lucerne last season, which was
a dry one, three times—in this respect not
coming near our correspondent, who cut his
crop seven times in one year."

A HEAVY FLEECE.

The *Colonial Farmer*, Fredericton, N.
B., says:

"A farmer at Lower Gagetown, Queen's
County, possesses a flock of sixteen grade
Leicester that averaged ten pound of wool
per head. The sheep were highly fed for
six weeks or so, before going out to grass,
the food consisting of grain and potatoes.—
Mr. Fox, the owner of the flock, considers
it judicious to change the food frequently.
Not bad for New Brunswick.

Notes of the Garden and Farm.

ORIGINAL AND SELECTED—S.

CURRENT WORMS.

We see recommended the following recipe
for this pest of the garden:

"Two teaspoonfuls of potass to two gal-
lons of rain water, sprinkled over the cur-
rant bushes twice a day for a few days, will
effectually rid the bushes of the currant
worms. For the potato bug the same re-
medy is effectual."

For years we have effectually waged war
against the currant worm, and have always
had a superabundant fruit supply even when
there was none elsewhere in the neighbor-
hood. My remedy was hellebore sprinkled
on the bushes as soon as the worm made its
appearance. It never failed of destroying
them, and at no time was it of the slightest
injury to bushes or fruit. To have the very
large crops of currants thrive some little
trouble is necessary. In the fall I prune
every bush, dig a trench around it, which I
fill with rich, strong earth or compost, and
in spring mulch with wood ashes.

The *Western Advocate* regrets that the
Agricultural "Associations almost alto-
gether ignore the cultivation of the soil in
their competition for premiums." It is not
so in the home country. We have taken
part in awarding premiums for the best
plowed fields, the best crops of roots, of
cereals, and of flax, and know what a val-
uable stimulus to good farming was the award-
ing of such premiums. In a section of
country by no means remarkable for its
natural adaptation to successful agriculture,
we have seen fields of turnips yielding from
40 to 45 imperial tons to the plantation
acres; mangold wortzels a still heavier crop;
oats from 17 to 20 barrels (the barrel of oats
the same weight as a barrel of flour); pota-
toes nearly 23 tons, equal to 800 bushels.—
This was model farming. Not a weed was
to be seen; the stones were crowded out of
sight in the best place—the drains; there
were no waste corners. The reports of the
farms lately obtaining the premiums were
only on a larger scale, and in a better farm-
ing locality, but not otherwise better.

VITALITY OF THE SEEDS OF PLANTS.

"I never use in my garden such manure
as that heap till after a year's preparation,"
said E., pointing to a pile of the droppings
of cows that had been roaming and grazing
at will over the commons. "For some
time," he continued, "I used it without any
preparation, but experience has taught me a
lesson on the subject also. The seed of
white clover eaten by the cattle on the com-
mon remains perfectly sound in their dropp-
ings, and when used on the land the fol-
lowing spring, it grows with such tenacity
of life that I cannot keep my seed beds or
flower knots clean."

So great is the vitality of the seed of
white clover (*trifolium ripens*) and of many
other plants, that the saliva, the heat of the
stomach, and the rumination of cud of
chewing animals are powerless to affect it.
When such is the vitality of seeds so small
and apparently so easily injured, what must
be the power of endurance of the acorn and
chestnut and others protected by strong,
hard shells.

The length of time that some seeds must
have lain in the earth before they had the
opportunity of germinating, sometimes lead
to the inquiry: "Whence came those plants
so alien to the place?" We can scarcely
believe that for so many centuries as must
have elapsed since plants of the same species
could have grown there, the seeds could
have been stored in the earth with all their
vital powers unaffected by time or any of its
vicissitudes.

The writer had at one time the oppor-
tunity of witnessing a rare and remarkable
instance illustrating this wonderful endur-
ance of vital power. On the south-west
coast of Ireland there is a long, low range of
mountains—low when compared to McGill-
luddy's Reeks and other mountains in the
vicinity. There was no grass growing on
the mountains, no clover in the entire neigh-
borhood. More than once has the writer
reclined, not "beneath the shade of the
leafy beech tree," but on the fragrant heath,
while bees in thousands gathered their win-
ter stores of honey from the many colored
blossoms of the heath and wild thyme that

were the only occupants of the soil. Mr.
M., desirous to improve a portion of this
mountain, had it manured with sea sand and
shells from the shore. Such was the effect
of this manuring that the heath and thyme
disappeared when it was applied, and a
sward of white clover sprung up and flour-
ished, the dormant seeds awakened into life
by the lime of which the shells were com-
posed. How long must those seeds have
lain beneath the turf, bearing for untold
centuries nothing but heather and thyme on
that mountain side?

MANURING LIGHT AND HEAVY SOILS.

In light soils a good application of farm-
yard manure actually, in time, adds bulk to
the soil and creates more land, owing to the
large amount of humus and other organic
matters not taken up by the plant. In stiff
lands dung may be carted on the land and
spread without any fear of a loss of manur-
ing matter, even though it be plowed in for
some time. Clay has very marked powers
of absorption, and as the rain washes the
soluble material into the soil, it is held there
by the clay, ready for use when required by
the next crop. This property of clay ought
to be borne in mind, as it will enable you to
clear your farm yards, provided you are go-
ing to dung some clay land.—*Prof. Cate-
side, at Cambridge Wells, E.*

THE GRAPE VINE WITHOUT ARTIFICIAL SUPPORT.

In the garden of the Rev. Mr. Hablen, of
Penetanguishene, a Clinton vine was allowed
to run wild over the ground. The effect
was very remarkable. The vine not only
bore profusely and ripened its fruit as early
as the others of the same kind, but the
grapes were much finer, both in size and fla-
vor—so much as to be like quite a different
fruit.—*Ag. Report, Ontario.*

PERFORATING POWER OF ROOTS.

It is indeed wonderful how easily the
roots of plants and trees bore through hard,
impacted soils in search of nourishment.—
They use for this purpose a sort of awl,
of immense power, situated at the end of the
roots, and capable, with the aid of the other
root machinery, of thrusting aside heavy
weights and getting through almost any ob-
structions. Yet the awl consists only of a
mass of microscopic absorbent cells formed
by protoplasm or vegetable mucus—the
fluid in which vital action is first set up.—
The roots of the elm and the maple will
bore through the hardest soils of walls or
streets, enter drains, twine about water
pipes and penetrate through the seams of
stone and brick structures.

The roots of some plants have been known
to pass through eighteen inches of solid
brick work and make their appearance in a
wine cellar below. Plants have a vast
power in overcoming obstacles, when forag-
ing for food. They are like a hungry ani-
mal which no fences can restrain when there
is food beyond. The movements of roots
in soils proceed on certain principles of utility
in connection with the welfare of the plant.
Some need much more moisture than others,
and the roots will drive through rocks to
obtain it; others need silicious food, and will
penetrate through a clay bank to reach the
desired foraging ground. The urgency with
which nature drives plants and animals in
pursuit of food is almost irresistible.—*Journal
of Chemistry.*

The farm of Auchlochbrach, at Glenrinnies,
near the forest of Glenalldoch, in Banff-
shire, it is hardly necessary to state, is in
the Highlands of Scotland. It is situated
in a romantic glen, which is now become
historical by reason of the great success of
the splendid black-poll cattle which are
there produced. It was from this glen that
the polled ox came, which, in the Smith-
field show of 1872, beat every other breed,
shorthorn included, and that at the early
age of three years, at which tender period
he weighed 2,400 pounds. Recently, Mr.
McPherson, "of that ilk," sold six two-
year old beasts of this breed for \$152 each.
Besides this, the average price of two-year
olds from the whole of this Highland glen
for several years past, has been from \$100 to
\$140. Mr. McPherson possesses the only
pure polled cattle in the glen, hence the
greater value of his stock. Plenty of milk
to begin with, good grass, turnips and straw
are the main materials of which this fine

two-year old beef is made. Surely this is
creditable to this not inelegant—if black
and hornless—stock.

STORING POTATOES FOR SEED.

The method of storing potatoes for seed
deserves our serious consideration. Potatoes
that have been inadvertently left in the
ground when the crop is taken up, if so deep
as to escape being frozen, are always found
fresh when turned up in the spring, and
they are known to germinate more freely
and have a stronger growth than potatoes
stored in cellar or root-house. To preserve
potatoes fresh for seed we would dig them
with care as soon as ripe, let them dry for a
few hours in the sun and pit them, not put-
ting straw on them, but a soil; then, after a
few days, cover them lightly with earth, and
afterwards, before the hard frost sets in, put
on as much additional earth as will secure
them from the frost. In spring they will be
found as fresh as when taken up out of the
hill, and in the very best condition for the
table as well as for seed.

SELECTIONS FROM OUR HORTICULTURAL EXCHANGES.

The "Gardener's Monthly" says, in refer-
ence to the transplanting of the *Arborvitae*:—
Arborvitae is transplanted in this part of the
world all through the summer season. The
earth has to be tightly packed round the root;
and this tight packing is not merely a light
performance by heel and toe, but a ramming,
as if one was setting a post. If the weather
be dry, or likely to be dry, water is given with
the plant at planting. Unless the season be
a very extraordinary one, they do as well at
any season. There is some risk in all.

THE JAPAN PEA.

The London "Garden" thus writes:—"We
claim the honor, says the "Mobile Register,"
of having started a new interest in Japan
Peas, and we are proud of it, for the Japan
Pea is undoubtedly one of the best things for
our climate. It is easily raised, will grow on
almost any soil, and yields enormously. As
food for man, we think it is as good as the
pea or bean way. What is Japan Pea?" [We
hope in the fall to be able to answer this
question of the "Garden." We had the plea-
sure this season to present to our subscribers
small samples of the Japan Pea, and we ex-
pect their value will be fully tried.—Ed. F.A.]

It is only by slow degrees that one becomes
acquainted with the manifold diseases to which
plants are subject, and when these depend
either upon very obscure or minute moulds
and insects, the progress is necessarily very
slow. We have long since been acquainted
with certain small excrecences on peach roots,
which ultimately become more or less confluent
and decay, but we have been quite at a
loss to account for them. The excrecences
which are so common on pear leaves have at
last brought to light an extremely minute
four-footed acaroid, belonging to the same
category as that which is so destructive to
Nuts and Black Currants, and one of which is
well known as inhabiting certain gall-like
tubercles on Lime leaves. This bids fair to
explain a host of affections to which the leaves
of various trees are subject. We have now
before us an explanation of the peach root ex-
crecences. Mr. G. F. Wilson, to whom hor-
ticulture is so much indebted, has, in con-
junction with Mr. Joshua Saunders, just sent
to us from the Rev. J. Heyworth's, Westbury-
on-Trym, some roots attacked by a minute
insect which is clearly very closely allied to
the *Phylloxera*. The way in which the roots
are affected is almost precisely that in which
the vine roots are attacked. The insect either
alone or in company, settles upon the roots,
the tissues on either side swell from hyper-
trophy, and there is thus a little nidus for the
insect which lives upon the juices. The little
nodes gradually decay, and the whole root
eventually becomes highly diseased. The insect
is yellow, like the young *Phylloxera*, about
one thirty-fifth of an inch in length, and two-
thirds as much in width in the broadest part,
with six legs and two three jointed antennae,
which have two very minute bristles at the
tip. How far this may be constant it is
difficult to say, without an opportunity of ex-
amining the matter on the spot, for the insect
does not travel well, and out of eleven pieces
of root one only could be found bearing the
little pest after very diligent search. Appar-
ently the insects have just lost their activity,
and are now gradually entering upon the coc-
cus state, like the *Phylloxera*, for one or two
specimens occur twice as large as the rest and
much stouter. Further opportunities will
doubtless occur of studying the insect, the
discovery of which, especially considering its
close resemblance to the *Phylloxera*, is of some
importance.