opinion of the above writer and not as
a proof that arsenate of lead is a "kill-
all" in fine turf. He presents no techni-
cal data or other substantiation of his
stand on arsenate of lead.

I realize that the very thought of add-
ing arsenate of lead to soil outrages all
the theories and sacred ideas of the old
school who consider such an action only
as the violation of all so-called natural
laws. I can remember not many years
ago when the spraying of fruit and
shade trees with arsenate of lead first
came into vogue. All the wise men
designated it as a "kill-all" and tried to
get legislatures to make such spraying
illegal. It would kill the trees, and
would kill the persons who did the
spraying, etc., etc., ad infinitum, but
please take note that they are still
spraying trees with arsenate of lead and
will continue no doubt to do so until a
better and easier method is found.

All new methods, inventions and in-
novations have to undergo this barrage
of criticism but if they are sound they
emerge unscathed and ultimately
become an accepted, taken for
granted part of our daily lives. So
in the same way, I am entirely satisfied
that the use of arsenate of lead in fine
turf will be given a thorough trial by
turf enthusiasts all over the world, and,
if it is as sound a method as my six
years of experimental work lead me to
believe, it will take its proper place in
the accepted system of turf mainte-
nance.

I do not intend to take the space here
to refute the argument for arsenate of
lead as a "kill-all" because the value of
arsenate of lead in fine turf is now un-
der discussion by myself in a series of
articles appearing in GOLFDOM. I
would however suggest that the gentle-
man do a little bit of studying in ele-
mentary toxicology, plant physiology
and the chemistry, physics, and biology
of soils. It would certainly help him to
form a revision of opinion on the in-
teraction of arsenate of lead, soil and
turf grasses.

Soil Action

The action of soil upon arsenate of
lead is not a slow or long delayed pro-
cess, in fact it begins at once and con-
tinues for some time before a chemical
equilibrium is set up between the soil
and the arsenate. At the end of this
time some of the arsenate of lead has
broken down forming basic arsenate of
lead which is virtually insoluble in the
soil solution and is non-toxic to grubs,
worms and vegetation. Soluble arsenate
in the form of arsenates or arsenites is
also formed, this being toxic to the ma-
majority of weeds, to grubs and worms,
but non-toxic to the majority of fine turf
grasses. The remainder of the arsenate
of lead originally added to the soil stays
in the soil chemically unchanged for
long periods of time, years in fact, and
does not influence plant growth one way
or the other. It simply acts as a grub or
worm poison. Therefore if the grass is
to die, or the soil to become barren, as a
result of the application of arsenate of
lead it should take place within a few
weeks and not 5 years later as the gen-
tleman, contends. I have turf at River-
ton which has been arsenated for 6
years. It is still in first-class condition.

If arsenate of lead did not break down
in soil until 2, 3, or 5 years had passed
it would be valueless as a weed control
agent because it is the soluble arsenate
so formed which acts in this capacity.
If arsenate of lead were so stable that it
did not break down in soil it would be
valueless as a worm and grub poison be-
cause it would then be too stable chemi-
ically to break down in the stomach of
the worm or grub and would fail to
liberate the soluble arsenic which poi-
sions.

As far as earthworms are concerned
you may have and welcome. I don’t
want them neither do I want anything
else on a golf green which interferes
with true and sure putting.

Worthington Mower in New
Chicago Office

WORTHINGTON MOWER CO. now is
occupying its new Chicago office at
517-21 South Laflin street. There is ap-
proximately 50 per cent greater space in
the new office and warehouse than the com-
pany had previously in Chicago.

INTER-KILL usually means the soil
is water-logged. Remember this when
you are making your spring check-up on
the course's condition.