|  |  |
| --- | --- |
| Logo AGES | |
| Box blight | |
|  |  |
| 07.05.2024 13:24 Uhr | |

**Box
blight**

**Cylindrocladium
buxicola
B.
Henricot**

Last
change:
14.12.2021

**Profile**

Shoot
death
of
boxwood
is
caused
by
the
fungus
*Cylindrocladium
buxicola*
.
The
infestation
is
noticeable
by
dropping
of
leaves
and
death
of
whole
shoots.
High
humidity
and
warm
temperatures
favor
the
spread
of
this
fungus.

**Biology**

*Cylindrocladium
buxicola*
can
infect
boxwood
plants
both
via
wounds
and
via
the
intact
cuticle
of
the
leaves.
However,
it
requires
leaf
wetness
for
this,
and
a
period
of
five
to
seven
hours
is
sufficient.
The
infestation
is
favored
by
warm,
humid
weather.
The
optimum
temperature
is
25°C,
but
mycelial
growth
can
begin
even
at
5°C.
High
temperatures
are
not
tolerated
well.
High
temperatures
are
not
well
tolerated,
because
above
30
°C
the
fungus
stops
growing
and
at
temperatures
above
33
°C
it
dies.
By
means
of
the
permanent
spores
(chlamxdospores)
formed,
the
fungus
can
survive
in
the
soil
for
at
least
four
years.

**Damage
symptoms**



Triebsterben
am
Buchsbaum



Typische
schwarz
verfärbte
Läsionen
am
Trieb

Symptoms
on
the
boxwood
are
striking.
Initially,
on
the
younger
leaves
are
found
small
brownish
spots,
which
have
a
dark
edge.
As
the
disease
progresses,
the
leaves
turn
brown,
leaf
drop
occurs,
and
entire
shoots
die.
With
sufficient
moisture,
a
white
spore
coating
forms
on
the
undersides
of
the
leaves.
Very
dark,
almost
black,
streak-like
lesions
form
on
the
shoots.

**Host
plants**

Only
species
of
the
genus
*Buxus*
are
attacked.
Studies
have
shown
that
there
are
differences
in
susceptibility
among
different
species
and
varieties
of
boxwood.
For
example,
*Buxus
sempervirens*
'Suffruticosa',
'Rotundifolia',
'Handworthiensis'
and
'Raket'
are
considered
highly
susceptible,
while
*Buxus
sempervirens*
'Blauer
Heinz'
is
susceptible.
The
cultivars
'Arborescens',
'Elegantissima'
and
'Herrenhausen'
and
*Buxus
micorphylla*
'Faulkner'
are
considered
relatively
resistant.
Densely
planted
bed
borders
and
plants
cut
into
spheres
or
figures
are
particularly
at
risk,
as
leaf
wetness
can
be
retained
particularly
well
and
for
a
long
time
here.

**Distribution**

In
Europe,
*Cylindrocladium
buxicola*
has
been
detected
in
Belgium,
Germany,
France,
Ireland,
the
Netherlands,
and
the
United
Kingdom.
There
are
also
reports
of
the
occurrence
of
this
pathogen
from
New
Zealand.
In
recent
years,
the
fungus
has
become
increasingly
noticeable
in
Germany,
especially
in
northern
Germany.
In
the
meantime,
shoot
dieback
is
also
increasingly
occurring
in
Austria.
In
particular,
the
sometimes
high
humidity
between
June
and
August
and
the
warm
temperatures
are
likely
to
have
favored
the
spread
of
the
pathogen.

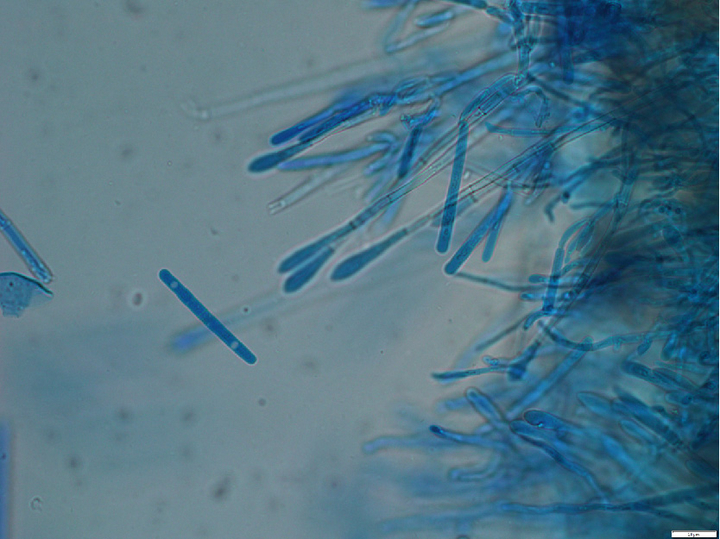
**Propagation
and
transmission**

For
successful
infection,
the
fungus
requires
a
leaf
wetting
period
of
at
least
five
hours.
After
germination
of
the
conidia,
it
penetrates
either
via
wounds
(pruning
measures,
injuries)
or
directly
into
the
healthy
plant
tissue.
Under
conditions
optimal
for
the
fungus,
the
first
leaf
spots
appear
after
about
a
week
and
leaf
drop
begins.
A
white
spore
lawn
is
found
on
the
undersides
of
the
leaves
under
high
humidity
conditions,
which
serves
to
further
spread
the
fungus
during
the
growing
season.
With
wind
and
water
splashes,
the
spores
are
further
spread
in
the
stand.
Overwintering
occurs
by
means
of
permanent
spores
(chlamydiospores)
which
can
survive
in
the
soil
on
dead
leaves
for
at
least
four
years.

**Prevention
and
control**

* Since
  leaf
  wetness
  is
  an
  important
  prerequisite
  for
  infection,
  avoiding
  it
  is
  one
  way
  to
  reduce
  the
  probability
  of
  infestation.
  Unfortunately,
  this
  is
  difficult
  to
  implement
  in
  the
  field.
  However,
  when
  planting,
  wind-open,
  sunny
  locations
  should
  be
  preferred
  to
  promote
  drying
  of
  the
  plants.
  Supplemental
  irrigation
  should
  be
  applied
  directly
  to
  the
  root
  and
  not
  through
  the
  foliage.
* There
  are
  differences
  in
  susceptibility
  among
  the
  various
  cultivars.
  The
  widely
  used
  cultivars
  'Suffruticosa'
  and
  'Blauer
  Heinz'
  are
  considered
  highly
  susceptible,
  while
  'Arborescens'
  is
  less
  susceptible.
  Multi-year
  variety
  trials
  show
  that
  the
  *Buxus
  microphylla
  cultivars*'Herrenhausen'
  and
  'Faulkner'
  are
  the
  least
  susceptible
  to
  *C.
  buxicola*
  infestation.
  However,
  infestation
  cannot
  be
  completely
  avoided
  by
  cultivar
  selection
  at
  this
  time.
* Diseased
  plants
  should
  be
  removed
  together
  with
  the
  fallen
  foliage
  and
  destroyed
  (in
  residual
  waste,
  by
  professional
  composting
  (hot
  rotting),
  by
  burning
  or
  deep
  burial).
  The
  top
  layer
  of
  soil
  should
  also
  be
  removed
  in
  the
  process,
  as
  the
  pathogen
  survives
  in
  the
  soil
  for
  many
  years.
* Equipment
  and
  tools
  used,
  as
  well
  as
  shoes
  and
  hands,
  should
  be
  thoroughly
  cleaned
  and,
  if
  possible,
  disinfected
  after
  work
  on
  diseased
  plants
  has
  been
  completed,
  before
  further
  plantings
  are
  worked
  on.

**Specialized
information**



Konidien
von
Cylindrocladium
buxicola
und
sterile
Fortsätze
der
Konidienträger

Fungi
from
the
genus
*Cylindrocladium*
are
better
known
as
root
rot
pathogens
in
ornamental
plants
but
also
in
numerous
forest
plants.
*Cylindrocladium
buxicola*
,
however,
infects
the
plants
via
the
leaves.
For
this
purpose,
the
fungus
itself
can
overcome
the
healthy
cuticle,
i.e.
injuries
are
not
necessary
for
a
successful
infection.
In
terms
of
humidity,
five
to
seven
hours
of
leaf
wetness
are
sufficient
and
the
spores
germinate
after
only
three
hours
of
high
humidity.
It
is
also
not
very
demanding
in
terms
of
temperature;
the
fungus
starts
to
grow
at
5
°C
already.
Its
temperature
optimum
is
25
°C.
*Cylindrocladium
buxicola*
does
not
tolerate
high
heat.
Above
30
°C
it
stops
growing
and
at
temperatures
above
33
°C
the
fungus
is
killed.
However,
its
chlamydospores
can
survive
for
at
least
four
years
even
in
dead
plant
material.

The
conidia
have
the
shape
typical
of
fungi
of
the
genus
*Cylindrocladium*
.
They
are
simply
septate,
rounded
at
both
ends
and
cylindrical.
Their
length
is
42
-
68
µm
and
their
width
is
about
4
-
6
µm.
The
sterile
processes
of
the
conidia
carriers
are
95-155
μm
long.
On
culture
medium
(PDA,
MA)
its
growth
is
about
2
cm
per
week.
Initially,
colonies
are
brown
in
color
in
the
center
and
become
progressively
lighter
toward
the
edges.
Conidia
formation
begins
after
about
seven
days.

**Literature**

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**Links**

[Information
from
EPPO
about
shoot
dieback
on
boxwoods](https://gd.eppo.int/taxon/CYLDBU)

**Services**

[Plant
Health
Services](en/plant/plant-health/plant-health-information)