|  |
| --- |
| Logo AGES |
| Black spot of strawberry |
|  |  |
| 30.04.2025 08:19 Uhr |

**Black
spot
of
strawberry**

**Colletotrichum
acutatum**

Last
change:
05.09.2024

**Profile**

Anthracnose
of
strawberry
is
caused
by
a
fungus.
It
causes
brown
spots
on
strawberries
and
thus
can
cause
significant
damage
due
to
crop
loss.

**Biology**

The
fungus
can
spread
throughout
the
plant,
but
is
found
mainly
in
the
base
of
older
petioles.
In
perennial
stands,
it
overwinters
in
living
or
dead
plant
tissues.
Disease
outbreak
is
favored
by
warm,
high-precipitation
weather
in
spring.
For
spore
germination,
*C.
acutatum*
requires
temperatures
of
at
least
15°C
and
humidity
approaching
100%.
The
fungus
finds
optimal
conditions
at
temperatures
between
22
°C
and
28
°C
and
simultaneous
wetness.
The
longer
periods
of
wetness
persist
at
favorable
temperatures,
the
greater
the
risk
of
serious
yield
losses
due
to
anthracnose.

**Damage
symptoms**



Blattsymptome
von
C.
acutatum

Fruit
symptoms
on
ripe
fruit
are
typical
and
easily
recognizable:
small
circular
brown
spots
that
grow
as
the
disease
progresses,
turning
brown-black
in
dry
weather
and
sinking
deep
into
the
tissue.

*C.
acutatum*
can
also
infect
immature
berries.

If
infection
occurs
on
flowers,
they
do
not
develop
further
but
wither
and
kink.

On
petioles
and
stolons,
elongated,
dark
spots
appear
that
sink
into
the
tissue
and
are
surrounded
by
a
red
auricle.
In
the
advanced
stage,
they
encompass
the
entire
tissue.
Since
the
pathogen
spreads
systemically
in
the
plant,
such
symptoms
on
the
stolons
should
be
watched
out
for,
especially
in
the
production
of
planting
material.

Spore
deposits:
Numerous
light
pink
(salmon-colored)
spore
deposits
form
on
the
surface
of
the
infested
areas
of
fruits,
petioles
and
stolons
under
moist
conditions.

Non-specific
symptoms:
Systemically
infected
plants
may
be
conspicuous
in
the
field
due
to
their
inhibited
growth.

Leaf
symptoms:
Another
symptom
sometimes
observed
is
small
punctate
leaf
spots
(<1mm)
occurring
mainly
along
the
leaf
veins.

**Host
plants**

The
pathogen
occurs
on
a
wide
range
of
host
plants
(at
least
91
genera
in
52
different
plant
families).

Economically,
C.
acutatum
is
most
important
on
strawberries*(Fragaria
ananassa*).
In
addition,
*C.
acutatum*
also
causes
bitter
rot
on
apples,
frequently
attacks
fruit
of
blueberries
and
elderberries,
and
flowers
and
shoots
on
citrus
plants.

**Distribution**

Anthracnose
of
strawberry
was
first
detected
in
Austria
in
1997.

**Propagation
and
transmission**

The
pathogen
is
spread
mainly
through
infected
planting
material,
as
the
fungus
survives
unnoticed
in
it.
The
infection
of
the
plants
is
usually
only
noticed
the
next
year
during
the
first
harvest.

**Economic
importance**

Because
the
fungus
sporulates
rapidly
and
the
spores
are
spread
through
the
field
by
splashing
water,
in
years
with
warm,
wet
weather
during
harvest,
the
damage
from
crop
failure
can
be
significant.

**Prevention
and
control**

* Use
healthy
planting
material.
*C.
acutatum*
can
be
relatively
easily
isolated
from
the
base
of
petioles
and
detected
by
the
shape
and
size
of
spores.
Examination
of
plants
prior
to
planting
is
recommended.
* Optimization
of
crop
management:
to
reduce
the
number
of
infection
periods,
good
aeration
of
the
crop
is
essential
(single
row
planting
systems,
thinning
and
weed
treatment).
Timely
straw
incorporation
reduces
the
spread
of
spores
by
water
droplets.
Furthermore,
nitrogen
fertilization
should
be
limited.
Close
picking
intervals
considerably
reduce
the
risk
of
fruit
infestation.
* Due
to
the
biology
of
the
pathogen,
plant
protection
products
have
only
a
partial
effect.
Their
use
must
be
in
combination
with
the
specified
cultural
measures
(see
[list
of
plant
protection
products
approved
in
Austria)](https://www.baes.gv.at/zulassung/pflanzenschutzmittel/pflanzenschutzmittelregister/).
* Regular
control
for
symptoms
and
removal
of
diseased
plants.
* In
case
of
heavy
infestation,
the
field
should
be
turned
over.
Strawberries
should
not
be
replanted
for
two
years.
* Optimization
of
irrigation
strategy:
In
the
warm
and
dry
growing
areas
of
eastern
Austria,
strawberry
cultivation
is
only
possible
with
irrigation.
Optimal
in
terms
of
reducing
the
risk
of
infection
is
drip
irrigation.
If
irrigation
is
necessary,
it
should
be
noted
that
this
should
not
be
done
at
night
temperatures
above
15
°C,
as
this
would
create
optimal
infection
conditions
for
the
fungus.
In
practice,
it
has
been
shown
that
by
switching
irrigation
to
the
morning
hours,
the
number
of
serious
disease
outbreaks
could
be
reduced,
as
this
ensures
faster
drying
of
the
strawberry
plants.

**Specialized
information**

**Microbiology**

The
conidia
are
formed
in
the
spore
stores
(so-called
acervuli).
These
are
unseptate,
straight
and
pointed
at
least
at
one
end
(usually
both).
Their
length
varies
between
8
and
16
µm,
the
width
between
2.5
and
4
µm.

*Glomerella
acutata*
occurs
predominantly
in
its
secondary
fruit
form*(Colletotrichum
acutatum*).
In
addition
to
*C.
acutatum*
,
C.
*fragariae*
and
*C.
gloeosporioides*
have
also
been
detected
on
strawberries,
but
these
are
of
secondary
importance
on
strawberries
in
Europe.

**Services**

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