

# Tornado Rating Document

## Weiler (Baden-Württemberg)

Germany

07 JUN 2021

Date: 07 JUN 2021

Time: 1730 CEST / 1530 UTC

Country: Germany

State: Baden-Württemberg

Place: Weiler (Rainau com.)

Path Length: 0.9 km

Path Width: 80 m

Starting Point: 48.9107N 10.1772E

Altitude: 467 m osl

Ending Point: 48.9031N 10.1805E

Altitude: 471 m osl

Movement: NNW-SSE

Surface: Land

Surface Details: Farmland, Houses, Gardens, Trees

Intensity Rating: IF1- / F1 / F1T2

Intensity Rating - based on „Tornado and Wind Damage Assessment Guide“ by ESSL (2018) and Hubrig, M.: Wooden Plants: A New Damage Indicator / Degree of Damage Matrix (2015).

Site survey and tornado damage mapping by Hendrik Sass. Photo material by Feuerwehr Rainau, H.Herdeg, S.Zeller and H.Sass.

Intensity rating operated by Thilo Kühne (ESSL)

### Buildings:

#### 01 Large barn (48.9096N 10.1772E)



Some slates blown down from the roof on the north side of the building.

DI Roofs, DoD1 (<20% loss ratio): IF0+ / F0T1.

### 02 Large barn (48.9096N 10.1772E)



Some slates blown down from the roof on the north side of the building.  
DI Roofs, DoD1 (<20% loss ratio): IF0+ / F0T1.

### 03 Residential building (48.9083N 10.1781E)



Some slates blown down from the roof on the north side of the building.  
DI Roofs, DoD1 (<20% loss ratio): IF0+ / F0T1.

### 04 Road sign (48.9094N 10.1777E)



Damage very likely not caused by wind force, but by falling tree or large branches.

### 05 Greenhouse

Greenhouse moved and partly smashed. It is possible that some material was thrown onto the building. Damage not defined = Rating not possible.

## **Vegetation:**

### **05 Willow tree** (48.9091N 10.1778E)

Some single branches snapped, mostly in the middle section of the tree.  
DI IV Soft Hardwood, DI Sub c (avg.), DoD2 results in upper F0 (F0T1).

### **06 Shrubs** (48.9086N 10.1787E)

Snapped directly over ground.  
DI IX Shrubs, DI Sub b (avg.), DoD4 results in F1 (likely low end F1) / F1T2.

### **07 Poplar** (48.9094N 10.1775E)

Tree uprooted.  
DI IV Soft Hardwood, DI Sub c (avg), DoD3 results in low end F1 (F1T2).

## **Result:**

**Comparing all damage points, the tornado intensity results in IF1- (low-end F1) or F1T2 due to vegetation damage. Damage to buildings results in IF0+ (high-end F0) or F0T1.**

Intensity rating operated by Thilo Kühne (ESSL), 10 JUN 2021