Mushroom Farming System – Sensor Indicator Guidelines

Inputs to Monitor

1. **Humidity (RH – Relative Humidity)**
2. **Temperature (°C)**
3. **Light (lux)**

These inputs are validated continuously to ensure optimal mushroom room conditions.

1️⃣ Humidity

- **Target Range:** 85–90%
- **Reading Interpretation:**
    - < 85% → Mist or use humidifier.
    - > 90% → Slightly ventilate to avoid condensation.
- **Effect on Mushrooms if Out of Range:**

Reading	Effect on Mushrooms
< 85%	Substrate dries → slow mycelium growth. Mushrooms small, cracked, or dry. Pins may abort.
> 90%	Excess water → risk of mold (green mold, bacteria). Caps soft or waterlogged. Poor air circulation worsens CO_2 buildup.

2️⃣ Temperature

- **Target Range:** 18–22 °C (64–72 °F)
- **Reading Interpretation:**
    - < 18 °C → Room too cold, growth slows.
    - > 22 °C → Room too warm, may stress mushrooms.
- **Effect on Mushrooms if Out of Range:**

Reading	Effect on Mushrooms
< 18 °C	Growth slows → delayed fruiting. Mycelium may become dormant. High humidity + low temp → condensation risk → bacterial growth.

Reading	Effect on Mushrooms
> 22 °C	Mycelium stressed → weaker mushrooms. Caps may deform or split. High temp + high humidity → accelerates contamination.

3️⃣ Light

- **Target:** Low indirect light, 12h light / 12h dark (~200–400 lux)
- **Reading Interpretation:**
  - Too low → Cap deformation, poor pin formation, pale color.
  - Too high → Substrate dries → stress mycelium. Caps may burn/toughen. Low humidity worsens effects.

Reading	Effect on Mushrooms
Too low / darkness	Caps irregular or elongated. Poor pin formation. Pale color.
Too high / direct sunlight	Substrate dries → stress mycelium. Caps burn or tough. Low humidity effects worsen.