

CASE FILE 1: THE MISSING PRIZE PUMPKIN

MEDIUM

ABOUT 15 MINUTES

4 QUESTIONS

AGES 10 AND UP

A 412-pound pumpkin has vanished from a locked barn the night before judging. Everything you need to work out who moved her, how and why is in the file below. Read it all first, then take the questions in order.

THE CASE

Every October the town of Maple Hollow holds its Fall Festival, and every year the biggest event is the giant pumpkin contest. This year the favorite is Big Bertha, grown by Alma Greer, who has entered a pumpkin every year for thirty years and never won.

On Friday afternoon the six giant pumpkins were set out on wooden pallets in the Show Barn, ready for judging at nine o'clock on Saturday morning. Contest rules are strict: a pumpkin with any soft spot or damage is disqualified. The barn was locked for the night.

At seven o'clock on Saturday morning, the crew unlocked the barn. Bertha's pallet was empty.

THE FILE

EXHIBIT A

THE FAIRGROUND

From the festival program.

- **The Show Barn.** The giant pumpkins wait here overnight, one to a bay. One door, locked at night.
- **The Office.** Next door to the barn, locked at night. Inside is a hook board holding the spare barn key and the tractor key.
- **The Tractor Shelter.** Behind the barn. The festival owns one small tractor with a front loader, the only machine on the grounds that can lift a giant pumpkin.
- **The Apple Shed.** An old shed 200 yards east of the barn, along a dirt lane. It is empty this year, and its roof is sound.

Office keys are held by two people only: Denise Hollis, the festival organizer, and Frank Ostrowski, the night caretaker. Overnight, Frank is the only person on the grounds.

EXHIBIT B

CLOSING CHECKLIST, FRIDAY 9:30 PM

Filled in by Denise Hollis.

- Six giant pumpkins on their pallets. Big Bertha in bay 4.
- Tractor parked in the shelter. Hour meter reads 1,204.6.
- Barn locked. Office locked. Spare barn key and tractor key on the hook.

Note: Walt Pruitt unloaded the pumpkins with the tractor this afternoon, since I don't drive it. Reminder for Frank: nobody uses the tractor at night.

EXHIBIT C

WEATHER RECORD

Maple Hollow weather station, Friday night into Saturday.

- **9:00 pm to 10:30 pm.** Dry.
- **10:30 pm to 1:00 am.** Heavy rain.
- **1:00 am to 7:00 am.** Dry.

EXHIBIT D

NIGHT CARETAKER'S LOG

Kept by Frank Ostrowski.

- **11:00 pm.** Rounds. Barn locked, office locked. Raining hard.
- **2:00 am.** Rounds. All quiet. Barn locked, office locked.
- **6:30 am.** End of shift.

EXHIBIT E

WHAT THE CREW FOUND AT 7:00 AM

- The barn door was locked, and nothing had been forced. Bay 4 was empty.
- A puddle of water sat in bay 4, under a drip in the roof. The rest of the barn floor was dry.
- Outside the barn door, tractor tire tracks ran through the mud. They were sharp and clean, with no rain marks in them, and they led east along the lane and back again to the Tractor Shelter.
- The tractor was in its shelter. The hour meter read 1,205.1.
- The office was locked. Both keys were on the hook.

EXHIBIT F

STATEMENTS, TAKEN AT 7:30 AM

Walt Pruitt, grower, second place three years running: *"I went home at eight and I was in bed by ten. Ask my neighbor, he saw my truck in the drive all night. I want to beat Bertha fair and square."*

Toby Greer, Alma's nephew, 16: *"I helped Aunt Alma set Bertha on her pallet around five. I stayed on the hayride until it finished at ten, then walked home. I don't have a key to anything."*

Denise Hollis, festival organizer: *"I locked up at half past nine and took my keys home with me. I have never driven that tractor in my life."*

Frank Ostrowski, night caretaker: *"I did my rounds at eleven and at two, like the log says. Everything was locked up tight. I never touched the tractor. I know the rule."*

THE QUESTIONS

Take them in order. Each answer gives you something you need for the next one.

QUESTION 1. WHEN WAS BERTHA MOVED?

Before the rain started, while it was raining, or after it stopped?

After the rain stopped: some time between 1:00 am and 7:00 am.

Everything you need is in the tracks (Exhibit E) and the weather record (Exhibit C).

1. The tracks are pressed into mud, so the ground was already wet when the tractor went by. The rain started at 10:30 pm, so it was **not before 10:30 pm**.
2. The tracks are sharp and clean, with no rain marks. Heavy rain would have blurred them, so it was **not while it was raining**, between 10:30 pm and 1:00 am.
3. The crew arrived at 7:00 am and Bertha was already gone.

That leaves one window: **after 1:00 am and before 7:00 am**. Keep it in mind for question 3.

QUESTION 2. HOW WAS SHE MOVED, AND WHAT DID THE MOVER NEED FIRST?

With the tractor. And before they could start it, the mover had to get the tractor key out of the locked office.

1. Bertha weighs 412 pounds. The only machine on the grounds that can lift her is the tractor with its front loader (Exhibit A).
2. The hour meter read 1,204.6 when Denise locked up and 1,205.1 in the morning. So the tractor **ran for half an hour** during the night.
3. The tractor key hangs on the hook inside the office (Exhibit A). The office was locked all night and still locked in the morning, with nothing forced (Exhibits D and E).
4. So whoever moved Bertha **unlocked the office with a key**.

Only two people have an office key: **Denise and Frank**. Take those two names into question 3.

QUESTION 3. WHOSE STATEMENT CANNOT BE TRUE?

Frank's.

Go through the four people one at a time, using what questions 1 and 2 told you: the tractor was used between 1:00 am and 7:00 am, by someone with an office key.

1. **Walt** can drive the tractor, but he has no office key, and his neighbor saw his truck at home all night. **Not Walt.**
2. **Toby** has no key to anything. **Not Toby.**
3. **Denise** has an office key, but she does not drive the tractor. She wrote that on Friday afternoon, before anything had happened (Exhibit B). **Not Denise.**
4. **Frank** has an office key, and overnight he was the only person on the grounds (Exhibit A). The tractor ran on his watch.

So when Frank says "I never touched the tractor", that cannot be true. Nor can "All quiet" at 2:00 am in his log.

QUESTION 4. WHY DID FRANK MOVE HER, AND WHERE IS BERTHA NOW?

Look again at bay 4.

To save her from a leaking roof. She is in the Apple Shed.

1. Bay 4, Bertha's bay, had a puddle under a drip in the roof. The rest of the barn floor was dry (Exhibit E).
2. It rained hard from 10:30 pm to 1:00 am. For two and a half hours, water had been dripping onto Bertha.
3. Contest rules disqualify a pumpkin with any soft spot, and a pumpkin sitting in water goes soft. Left there, **Bertha could have been thrown out of the contest.**
4. The tracks run east and back. The only building east of the barn is the Apple Shed, and its roof is sound (Exhibit A). **That is where Bertha went.**

Here is the whole story. On his eleven o'clock round, Frank heard water dripping inside the barn. As soon as the rain stopped, he went back, found Bertha sitting in a puddle, took the tractor key and carried her to the dry shed. Then he locked everything up again and wrote "All quiet" in his log, because he had broken the rule about the tractor and did not want to say so.

The crew found Bertha in the Apple Shed, dry and unmarked. At nine o'clock she weighed in at 412 pounds and won Alma Greer her first blue ribbon in thirty years. Frank got a thank you instead of a warning, and the next week Denise fixed the roof and changed the rule.