Figure 2a – a. Correct answer: Avena (AI)

A close-up of a microscopic view of a cell

AI-generated content may be incorrect.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Respondent ID | Exp. | Identification | Confidence | Descriptions |
| 114698657503 | 3 | Hordeum | 30% | I can't quite judge well enough shape/pits in images. |
| 114608398619 | 3 | Triticum | 55% | I am finding it hard without being able to zoom in and out but I thought the wave shape, the number of pits around the papillae and the pointiness of the cork cells looked like wheat |
| 114593798403 | 2 | Avena | 30% | I prioritize the wave pattern of elongate almost clavate, then the length-to-width ratio of the elongates and the wavy short margins combined with the ovoid papillae |
| 114591055078 | 1 | Hordeum | 19% | Evenly spaced elongate dentate |
| 114589291701 | 3 | Unidentifiable | 10% | Unclear |
| 114587903811 | 3 | Avena | 25% | Wave pattern looks like Avena, as does the thickness of the phytoliths (which is not by itself indicative, as those of us working in arid areas are very aware). Could be convinced it’s Triticum. Would not be confident to identify in a general archaeological sample |
| 114586405069 | 3 | Triticum | 90% | Image is rather clear, pattern prioritised |
| 114584712002 | 2 | Hordeum | 50% | More squarish waves, papillae less abundant and irregular than in oat |
| 114578272638 | 2 | N/A | N/A | N/A |
| 114577309146 | 1 | Avena | 23% | Due to the wave pattern (specially the ending of the long cells), this could be Avena. |
| 114576035342 | 3 | Triticum | 50% | Lobed wave patterns |
| 114573876642 | 3 | Triticum | 50% | Again, struggling to see papilla shape, relying on wave form |

Figure 2a – c. Correct Answer: Avena (Manual)

A close-up of a cell

AI-generated content may be incorrect.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Respondent ID | Exp. | Identification | Confidence | Descriptions |
| 114698657503 | 3 | Hordeum | 30% | Low confidence, as more pits than some barley (depends on the barley), but barley-like wave and papilla shape |
| 114608398619 | 3 | Unidentifiable | 100% | I would have preferred this at a higher magnification. I would guess at barley but wouldn't formally ID |
| 114593798403 | 2 | Unidentifiable | 10% | I prioritize the wave margin of elongates (and the absence of short wavy margins) which seem to me compatible with Triticum but I think the shape of papillas in this case could also belong Avena |
| 114591055078 | 1 | Triticum | 49% | The connection between the elongate dendritic forms more of a crenelation pattern |
| 114589291701 | 3 | Unidentifiable | 15% | Can’t see pits clearly enough |
| 114587903811 | 3 | Avena | 25% | Identified mainly on wave pattern, and general similarity to published pictures. Image is not clear enough to check papilla pits. Would not be able to identify in archaeological setting |
| 114586405069 | 3 | Hordeum | 75% | Squarish pattern |
| 114584712002 | 2 | Avena | 60% | For sure it’s not Triticum. Papillae look more abundant and irregular than in barley |
| 114578272638 | 2 | Avena | 60% | The papilla shape is visible on this pic but I would say that two characters are not enough to affirm this phytolith was produced by Avena but it is very likely |
| 114577309146 | 1 | Avena | 72% | Due to the wave pattern (specially the ending of the long cells) and the size of the papillae, this is probably Avena, though I would perform morphometric analysis to be sure |
| 114576035342 | 3 | Hordeum | 75% | Wave pattern was like Hordeum. The pits around the papilla matched the number for Hordeum. I would need to be able to measure the size of the papilla to be sure it was Hordeum |
| 114573876642 | 3 | Triticum | 25% | Not confident on this one, as not in-focus across entire image, but better than last one. Phytolith shape itself useful as well as the thicker wave |

Figure 2a – d. Correct answer: Avena (Manual)

A microscope view of cells

AI-generated content may be incorrect.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Respondent ID | Exp. | Identification | Confidence | Descriptions |
| 114698657503 | 3 | Hordeum | 48% | Based on wave and papilla shape, unable to count pits |
| 114608398619 | 3 | Unidentifiable | 100% | I didn't think there was enough diagnostic features |
| 114593798403 | 2 | Avena | 10% | I prioritize the wave pattern of the elongates and the presence of ovoidal papillae. But the extroflexions of elongate margins is compatible with Triticum as well |
| 114591055078 | 1 | Hordeum | 74% | Loosely connected elongate dentate |
| 114589291701 | 3 | Unidentifiable | 16% | Hard to see papilla |
| 114587903811 | 3 | Avena | 50% | I can’t see the papilla shape or pits in this image, so I’m not particularly confident in my identification of this phytolith |
| 114586405069 | 3 | Avena | 80% | Very thin cell bodies, 'spines' almost rectangular in shape and not many triangular in shape |
| 114584712002 | 2 | Avena | 75% | For sure it’s not Triticum. Higher waves than in barley (meaning longer 'arms'). Papillae look more abundant and irregular than in barley |
| 114578272638 | 2 | N/A | N/A | N/A |
| 114577309146 | 1 | Avena | 70% | Due to the wave pattern (specially the ending of the long cells) and the size of the papillae, this is probably Hordeum, though I would perform morphometric analysis to be sure |
| 114576035342 | 3 | Hordeum | 50% | The flattened wave pattern suggested Hordeum. It was hard to count the pits around the papilla |
| 114573876642 | 3 | Triticum | 75% | Wave form and papilla |

Figure 2a – e. Correct answer: Avena (Random)

A close-up of a microscope

AI-generated content may be incorrect.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Respondent ID | Exp. | Identification | Confidence | Descriptions |
| 114698657503 | 3 | Hordeum | 44% | Mainly on wave, if on microscope I may investigate pit more |
| 114608398619 | 3 | Hordeum | 30% | I was unsure about this one. I thought the wave and cork cell shape looked like barley but the pits around the papillae were more in line with wheat |
| 114593798403 | 2 | Unidentifiable | 10% | The length-to-width ratio seems to indicate Avena, as well as heavy clavate margins with U-shaped extrusions of the elongates. However the papillae shape are Hordeum |
| 114591055078 | 1 | Triticum | 50% | The dendritics are more crenellated in shape and there are pits around the papillae |
| 114589291701 | 3 | Hordeum | 45% | Dome-shaped papilla |
| 114587903811 | 3 | Triticum | 25% | I am not confident in this at all, as the width of the papilla is about 12 microns - smaller than what’s been reported in Rosen 1992, and the number of pits is ~12 (borderline for Triticum and Hordeum). However, to me the wave shape and the size/shape of the dendritics looks more Triticum-ish. I would not identify this in an archaeological sample |
| 114586405069 | 3 | Hordeum | 90% | Squarish pattern |
| 114584712002 | 2 | Triticum | 50% | Higher waves (meaning longer 'arms' of the long-cell'). Abundant and irregular papillae. Not barley. Thicker body of the long-cell than in wheat (possibly oat), but nº of pits around papilla =10, meaning not oat |
| 114578272638 | 2 | Avena | 70% | The stomata are still not really visible |
| 114577309146 | 1 | Triticum | 71% | Due to the wave pattern (specially the ending of the long cells) and the size of the papillae, as well as the pit pattern in the rim of the papillae, this is probably Triticum |
| 114576035342 | 3 | Unidentifiable | 50% | Difficult to determine. The waves have the flattened and regular bottoms of barley but the wave height and patterns are more like Triticum. The number of pits is right for either |
| 114573876642 | 3 | Triticum | 50% | Lot of mess on slide (silica skeleton overlapping), but wave form seems to imply Triticum |

Figure 2a – b. Correct answer: Avena (AI)

A close-up of a microscope

AI-generated content may be incorrect.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Respondent ID | Exp. | Identification | Confidence | Descriptions |
| 114698657503 | 3 | Unidentifiable | 73% | Too unclear/indistinct wave length |
| 114608398619 | 3 | Unidentifiable | 100% | I felt that none of this image was sufficiently in focus to make an ID |
| 114593798403 | 2 | Unidentifiable | 10% | Looking at the photo, I would say it's Avena because of the number and distribution of papillae, as well as the rounded shape of the elongate margins. Also, the right part of the photo shows elongates whose dimensions are more likely to be Avena. However, the margins and dimensions of many of the elongates could be Triticum because they are rounded, with spaced-out extrusions. The short sides are not visible, and the length-to-width ratio does not seem to indicate Avena |
| 114591055078 | 1 | Triticum | 35% | Crenelation pattern |
| 114589291701 | 3 | Unidentifiable | 63% | From I see, this example may be near the awn and thus not suitable for IDing |
| 114587903811 | 3 | Triticum | 50% | Basing this only on wave pattern, and dominance of dendritic morphotypes. Image in general is difficult to see, so I am not particularly confident in this |
| 114586405069 | 3 | Unidentifiable | 0% | Mostly not on focus |
| 114584712002 | 2 | Avena | 60% | For sure it’s not Triticum. Papillae look more abundant and irregular than in barley |
| 114578272638 | 2 | Avena | 70% | The papilla surrounding the short cells are visible, but to affirm this is Avena, we would need to observe the stomata |
| 114577309146 | 1 | Unidentifiable | 77% | Even though this is very likely a Pooideae silica skeleton due to wave pattern and papilla shape, I do not separate between genera without better imaging of papillae pits or further morphometric data |
| 114576035342 | 3 | Unidentifiable | 75% | Small number of pits. Wave pattern is somewhat like Hordeum |
| 114573876642 | 3 | Unidentifiable | 10% | To be clear - my confidence is that I am not confident I can ID from this picture - would need a better in-focus across entire image. Tentative suggestion of Avena but not willing to pin hat to it on this photo |

Figure 2a – f. Correct Answer: Avena (Random)

A microscope view of microscopic organisms

AI-generated content may be incorrect.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Respondent ID | Exp. | Identification | Confidence | Descriptions |
| 114698657503 | 3 | Unidentifiable | 71% | Too small a clearly silicified area |
| 114608398619 | 3 | Unidentifiable | 100% | My money is on wheat based on the wave pattern but I wouldn't ID this if I was doing archaeological analysis |
| 114593798403 | 2 | Avena | 30% | I prioritized elongate sinuate with U wave pattern; then the presence of ovate papillae |
| 114591055078 | 1 | Triticum | 11% | The crenelation of the elongate dentate |
| 114589291701 | 3 | Triticum | 50% | Papilla shape and size and irregular wave pattern |
| 114587903811 | 3 | Avena | 25% | I’m less confident here. I think the wave pattern looks mostly like Avena, but I can’t get a good look at the number of pits around the papilla here (I count about 12, but about 1/3 are obscured = 16-18 estimated). I would not identify this species in an archaeological sample |
| 114586405069 | 3 | Unidentifiable | 0% | Piece too small |
| 114584712002 | 2 | Avena | 50% | Higher waves (meaning longer 'arms' of the long-cell') than in barley. Abundant and irregular papillae |
| 114578272638 | 2 | Avena | 49% | These wave pattern and papilla shape might be coming from Avena but others anatomical characters are requested to affirm it |
| 114577309146 | 1 | Triticum | 29% | Due to the wave pattern and the size and pit pattern of the papillae (on top/in the rim of the papilla), this could be Triticum |
| 114576035342 | 3 | Unidentifiable | 50% | Dendritic wave pattern |
| 114573876642 | 3 | Unidentifiable | 49% | Wondering if better focus could help (hence my 50% confidence - can’t ID here but might be able to down a microscope) |

Figure 2a- k. Correct answer: Hordeum (Random)

A close-up of a microscopic view of a cell

AI-generated content may be incorrect.

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| --- | --- | --- | --- | --- |
| Respondent ID | Exp. | Identification | Confidence | Descriptions |
| 114698657503 | 3 | Hordeum | 16% | Unclear / part of a husk where the dendritic are v narrow - very tentatively barley, but almost said non-ID |
| 114608398619 | 3 | Unidentifiable | 100% | This wasn't in focus enough to be ID'd |
| 114593798403 | 2 | Unidentifiable | 10% | The edges of the short sides are not clearly visible in the photo, and neither are the papillae |
| 114591055078 | 1 | Hordeum | 22% | Empty papillae and elongate dentate shapes |
| 114589291701 | 3 | Triticum | 70% | Irregular wave pattern, papilla prominence and shape. I would check pits but too hard to see |
| 114587903811 | 3 | Triticum | 75% | Wave pattern - looks pretty consistent with Triticum |
| 114586405069 | 3 | Hordeum | 50% | Image not very clear |
| 114584712002 | 2 | Hordeum | 33% | Difficult to tell. I would say barley based on: Low waves (meaning short 'arms' of the long-cell'). Wider waves (meaning more distance between the 'arms') |
| 114578272638 | 2 | N/A | N/A | N/A |
| 114577309146 | 1 | Hordeum | 49% | Due to the wave pattern, this could potentially be identified as Hordeum though I would perform morphometrics to be sure |
| 114576035342 | 3 | Unidentifiable | 100% | Could not count the pits around the papilla |
| 114573876642 | 3 | Hordeum | 25% | Looks partially silicified? Or out of focus in places - makes identification difficult |

Figure 2a – i. Correct Answer: Hordeum (Manual)

A close-up of a cell

AI-generated content may be incorrect.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Respondent ID | Exp. | Identification | Confidence | Descriptions |
| 114698657503 | 3 | Hordeum | 48% | In this case a bit unconfident about the wave in some places, the papillae seem pointy |
| 114608398619 | 3 | Hordeum | 15% | If I was analysing this from an assemblage I would put unidentifiable husk but if pushed to ID this I would go with Barley based on wave pattern |
| 114593798403 | 2 | Unidentifiable | 10% | I prioritize the combination of margins of the short sides of elongate and the extroflexions (Triticum) + the presence of ovate papillae (Avena). In this case, in my opinion, it is unidentifiable because of the combination |
| 114591055078 | 1 | Hordeum | 74% | Loosely connected elongate dendritic and multiple cork phytoliths |
| 114589291701 | 3 | Unidentifiable | 50% | Papilla not clear enough |
| 114587903811 | 3 | Triticum | 50% | I’m basing this on the wave pattern |
| 114586405069 | 3 | Triticum | 50% | Would consider it not so characteristic, possible confusion with Avena |
| 114584712002 | 2 | Hordeum | 50% | Not sure about barley/oat. I would say barley based on: Low waves (meaning short 'arms' of the long-cell'). Wider waves (meaning more distance between the 'arms') |
| 114578272638 | 2 | N/A | N/A | N/A |
| 114577309146 | 1 | Unidentifiable | 68% | Even though this is very likely a Pooidae silica skeleton due to wave pattern and papilla shape, I do not separate between genera without better imaging of papillae pits or further morphometric data |
| 114576035342 | 3 | Unidentifiable | 100% | I had a hard time distinguishing the features of the papilla. If I were to go based on wave shape, then I would say Triticum |
| 114573876642 | 3 | Triticum | 75^ | Wave form and papilla shape |

Figure 2a – l. Correct answer: Hordeum (Random)

A close-up of a microscope

AI-generated content may be incorrect.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Respondent ID | Exp. | Identification | Confidence | Descriptions |
| 114698657503 | 3 | Unidentifiable | 61% | I find it hard to check the no. of pits |
| 114608398619 | 3 | Unidentifiable | 100% | I wouldn't ID this as I don't think there are enough defining characteristics |
| 114593798403 | 2 | Hordeum | 10% | I prioritize the shape and size of elongates which are sharp with irregular short sides as in Hordeum |
| 114591055078 | 1 | Hordeum | 12% | The papillae are empty and no pits |
| 114589291701 | 3 | Unidentifiable | 16% | Lack of diagnostic features |
| 114587903811 | 3 | Hordeum | 75% | Wave pattern of the dentates (ICPN 1: echinates) looks diagnostic. However, in archaeological samples I would not be sure if Hordeum or wild grasses without knowing more about the area |
| 114586405069 | 3 | Hordeum | 50% | Wave pattern was prioritised. This part seems to be from the apex so cells seem to be narrower and less characteristic |
| 114584712002 | 2 | Hordeum | 75% | Low waves (meaning short 'arms' of the long-cell'). Wider waves (meaning more distance between the 'arms'). Few papillae |
| 114578272638 | 2 | N/A | N/A | N/A |
| 114577309146 | 1 | Hordeum | 75% | Due to the wave pattern, this is probably Hordeum |
| 114576035342 | 3 | Unidentifiable | 100% | Looks like the upper portion of a husk where the cells are compressed |
| 114573876642 | 3 | Hordeum | 75% | Wave form and papilla seems to show Hordeum |

Figure 2a – j. Correct answer: Hordeum (Manual)

A close-up of a cell

AI-generated content may be incorrect.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Respondent ID | Exp. | Identification | Confidence | Descriptions |
| 114698657503 | 3 | Triticum | 40% | I can't quite judge well enough shape/pits in images |
| 114608398619 | 3 | Hordeum | 60% | I relied on the wave pattern as it was quite hard to count the pit around the papillae |
| 114593798403 | 2 | Hordeum | 20% | I prioritized presence of elongate dentate with sharp extroflexions margins. |
| 114591055078 | 1 | Hordeum | 22% | Loosely linked elongate dendritic |
| 114589291701 | 3 | Unidentifiable | 49% | Listed as unidentifiable |
| 114587903811 | 3 | Hordeum | 75% | Looks like a rather classic Hordeum to me, but first looking at wave pattern mainly, followed by papilla shape and pits around papilla |
| 114586405069 | 3 | Hordeum | 30% | Thin bodies so suggesting Avena, pattern recalling Hordeum. However, focus of image not best for observing the joint pattern as the focus is on the bodies |
| 114584712002 | 2 | Triticum | 33% | Very unsure, I would say wheat based on: High rounded waves (meaning long 'arms' of the long-cell') and many papillae: not barley. Wider waves (meaning more distance between the 'arms') than in oat |
| 114578272638 | 2 | Avena | 48% | This might fit Avena sp. phytolith but the wave pattern and the papilla shape are common features in grass plants |
| 114577309146 | 1 | Triticum | 49% | Due to the wave pattern (specially the ending of the long cells) and the size of the papillae, this is probably Triticum, though I would perform morphometric analysis to be sure |
| 114576035342 | 3 | Hordeum | 50% | Number of pits around papilla match those of Hordeum. The wave pattern is more even and consistent like Hordeum rather than highly irregular like Triticum |
| 114573876642 | 3 | Triticum | 75% | Wave form and papilla shape |

Figure 2a – g. Correct answer: Hordeum (AI)

A close-up of a cell

AI-generated content may be incorrect.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Respondent ID | Exp. | Identification | Confidence | Descriptions |
| 114698657503 | 3 | Hordeum | 46% | Based on wave + pointy papilla |
| 114608398619 | 3 | Hordeum | 10% | I think the wave looks a bit like Hordeum |
| 114593798403 | 2 | Hordeum | 30% | I prioritized the elongate wave pattern which is sharp and dentate |
| 114591055078 | 1 | Hordeum | 50% | Loosely connected elongate dentate |
| 114589291701 | 3 | Triticum | 35% | Dome-shaped papilla |
| 114587903811 | 3 | Hordeum | 75% | Wave shape and dominance of dentates, then papilla pits, then size. Papilla diameter was smaller than I expected - only about 8-10 microns, smaller than published reference. Still, in archaeological samples, would not identify as Hordeum |
| 114586405069 | 3 | Avena | 70% | Thin bodies |
| 114584712002 | 2 | Hordeum | 90% | Low waves (meaning short 'arms' of the long-cell'). Wide waves (meaning long distance between the 'arms'). Fewer papillae than in oat. |
| 114578272638 | 2 | Avena | 70% | The stomata are visible but their shape is blurred." |
| 114577309146 | 1 | Hordeum | 71% | Due to the wave pattern (specially the ending of the long cells) and the pit pattern of the papillae, this is probably Hordeum |
| 114576035342 | 3 | Hordeum | 50% | Flattened wave pattern |
| 114573876642 | 3 | Hordeum | 75% | Wave form, papilla and phytolith shape |

Figure 2a – h. Correct answer: Hordeum (AI)

A close-up of a cell

AI-generated content may be incorrect.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Respondent ID | Exp. | Identification | Confidence | Descriptions |
| 114698657503 | 3 | Triticum | 47% | All features |
| 114608398619 | 3 | Hordeum | 40% | Again I wish I could have zoomed in and out to look at the papilla so could only really use the wave |
| 114593798403 | 2 | Hordeum | 30% | The elongates dimension as well as the margins with 'pointed-sharp' shape resembling a V seems to be the characteristic of Hordeum |
| 114591055078 | 1 | Hordeum | 75% | Loosely connected with fairly even rounded pits and spikes |
| 114589291701 | 3 | Hordeum | 20% | I suggest Hordeum, but in my opinion, Hordeum is very difficult to ID reliably |
| 114587903811 | 3 | Hordeum | 70% | Wave pattern, dentate phytoliths, and then papilla pits. Again, size of papillae are smaller than published ratios, which makes me less confident |
| 114586405069 | 3 | Triticum | 75% | Focused on the cells as the 'pattern' between cells is not clearly observable |
| 114584712002 | 2 | Hordeum | 75% | Low waves (meaning short 'arms' of the long-cell'). Wider waves (meaning more distance between the 'arms'). Fewer papillae than in oat |
| 114578272638 | 2 | N/A | N/A | N/A |
| 114577309146 | 1 | Hordeum | 77% | Due to the wave pattern (specially the ending of the long cells) and the size of the papillae, this is probably Hordeum, though I would perform morphometric analysis to be sure |
| 114576035342 | 3 | Triticum | 50% | I counted the pits around the papilla and then compared that count with the Rosen 1992 numbers. Got a general sense of the wave patterns but some of them look blunted like Hordeum while others are wavy like Triticum |
| 114573876642 | 3 | Hordeum | 75% | Wave form, papilla shape and phytoliths |

Figure 2a – m. Correct Answer: Triticum (AI)

A close-up of a microscope

AI-generated content may be incorrect.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Respondent ID | Exp. | Identification | Confidence | Descriptions |
| 114698657503 | 3 | Triticum | 46% | I think the wave, in combination with papillae shape - and pits in so far as I can't count them, but if wild, a larger number should be obvious |
| 114608398619 | 3 | Triticum | 55% | Again it was hard to see the papillae clearly. In real life I would probably keep adjusting the fine focus to see these better |
| 114593798403 | 2 | Triticum | 10% | The dimensions of the phytoliths and both the margins and the papillae with the pits resemble Triticum |
| 114591055078 | 1 | Avena | 50% | Quite narrow curves between the spikes, more rectangular in shape |
| 114589291701 | 3 | Unidentifiable | 18% | The conical papilla look like Hordeum but still too difficult to be sure |
| 114587903811 | 3 | Triticum | 50% | Wave patterns are consistent with Triticum, although papilla shape and pits are difficult to see. I am not super confident in this identification |
| 114586405069 | 3 | Triticum | 90% | Pattern seems clear |
| 114584712002 | 2 | Triticum | 75% | Thick long-cell, cf. T. boeticum. High rounded waves (meaning long 'arms' of the long-cell'). Narrow waves (meaning little distance between the 'arms') |
| 114578272638 | 2 | Unidentifiable | 70% | This could come from different grass species as the wave pattern and the rounded short cells are common to many genera |
| 114577309146 | 1 | Triticum | 68% | Due to the wave pattern (specially the ending of the long cells), this is probably Triticum. However, papillae are relatively smaller than in other cases, so morphometrics would be needed |
| 114576035342 | 3 | Hordeum | 50% | Pits are the right number and wave pattern is even and has flattened bottoms |
| 114573876642 | 3 | Triticum | 50% | Less confident on this because of the papilla shape not being as clear to me |

Figure 2a – q. Correct Answer: Triticum (Random)

A close-up of a microscopic

AI-generated content may be incorrect.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Respondent ID | Exp. | Identification | Confidence | Descriptions |
| 114698657503 | 3 | Unidentifiable | 57% | Features unclear |
| 114608398619 | 3 | Triticum | 50% | I thought the wave pattern looked like wheat |
| 114593798403 | 2 | Triticum | 30% | The photo is not entirely focused, and there remains an organic component in the skeleton that obscures a clear view of the phytoliths but I would say that the elongates dendritic are the typical Triticum |
| 114591055078 | 1 | Avena | 12% | More of a gut feeling |
| 114589291701 | 3 | Unidentifiable | 10% | Regular wave pattern might suggest Hordeum but I think might be an awn |
| 114587903811 | 3 | Unidentifiable | 50% | Wave pattern would make me think Triticum. Low confidence due to image - very difficult to see more than one wave line (not sure of the terminology here) |
| 114586405069 | 3 | Triticum | 75% | Image not particularly clear |
| 114584712002 | 2 | Triticum | 90% | Thick long-cell, cf. T. boeticum. High rounded waves (meaning long 'arms' of the long-cell'). Narrow waves (meaning little distance between the 'arms') |
| 114578272638 | 2 | N/A | N/A | N/A |
| 114577309146 | 1 | Unidentifiable | 78% | Cannot be identified from the picture |
| 114576035342 | 3 | Triticum | 25% | Dendritic wave pattern associated with Triticum |
| 114573876642 | 3 | Unidentifiable | 50% | I think you could potentially identify this IF you could play with the focus and see wave form and details better. This is why my confidence is 50% - I’m confident right now I can’t identify it BUT not that it is fully unidentifiable |

Figure 2a – o. Correct answer: Triticum (Manual)

A close-up of a cell

AI-generated content may be incorrect.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Respondent ID | Exp. | Identification | Confidence | Descriptions |
| 114698657503 | 3 | Avena | 23% | I'm not sure what the wave pattern should look like - but the papilla are very irregular, with one possibly a high no of pits, like a wild grass |
| 114608398619 | 3 | Avena | 20% | I wouldn't ID based on just the wave pattern but if pushed to choose I would go with Avena |
| 114593798403 | 2 | Unidentifiable | 10% | I prioritize elongate wave pattern that in the upper part of the picture it seems Triticum dentritic but the dimension of the elongates and the sinuate pattern of some of the elongates could be Avena as well |
| 114591055078 | 1 | Hordeum | 24% | Hordeum has more regular pits and spikes and the papillae are rounded and empty in appearance |
| 114589291701 | 3 | Unidentifiable | 94% | No papilla available so not identifiable |
| 114587903811 | 3 | Triticum | 25% | Feel like this is another image from #16. The wavy phytoliths throw me off - I am still leaning towards Triticum, but possibly this could be Hordeum as well. I am not super confident because I only have morphotype and wave shape |
| 114586405069 | 3 | Triticum | 90% | Pattern clear |
| 114584712002 | 2 | Triticum | 75% | Thick body of the long-cell, cf. T. boeticum. High rounded waves (meaning long 'arms' of the long-cell'). Narrow waves (meaning little distance between the 'arms') |
| 114578272638 | 2 | Unidentifiable | 70% | This articulated phytolith could have been produced by many grasses |
| 114577309146 | 1 | Unidentifiable | 76% | The irregularity of the wave pattern makes it difficult to separate this from other non-Pooideae grass phytoliths |
| 114576035342 | 3 | Avena | 50% | Thin and pointed waves remind me of Avena. |
| 114573876642 | 3 | Avena | 25% | Not confident on this but only because I’m not so familiar with Avena - wave form implies it but I’d need my reference material out to double check |

Figure 2a – p. Correct answer: Triticum (Manual)

A close-up of a microscope

AI-generated content may be incorrect.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Respondent ID | Exp. | Identification | Confidence | Descriptions |
| 114698657503 | 3 | Triticum | 50% | Wave clearest to see in images |
| 114608398619 | 3 | Avena | 25% | Based on the wave pattern I thought it was most like Avena |
| 114593798403 | 2 | Triticum | 30% | I prioritize the wave patterns of the elongates dendritic which are present in the photo |
| 114591055078 | 1 | Triticum | 20% | There is crenelation |
| 114589291701 | 3 | Unidentifiable | 48% | I can’t see papilla so I can’t ID |
| 114587903811 | 3 | Triticum | 50% | Wave pattern is all that is visible here. I am not fully confident, as some of the wavy/dentate-ish phytoliths look Hordeum-like (specifically in my experience Hordeum vulgare). Would not identify in archaeological sample |
| 114586405069 | 3 | Triticum | 90% | More wiggly pattern |
| 114584712002 | 2 | Triticum | 75% | Thick body of the long-cell, cf. T. boeticum. High rounded waves (meaning long 'arms' of the long-cell'). Narrow waves (meaning little distance between the 'arms') |
| 114578272638 | 2 | Unidentifiable | 80% | This articulated phytolith is not identifiable at the genus level as the wave pattern is common to many grass leaves or stems |
| 114577309146 | 1 | Unidentifiable | 79% | The irregularity of the wave pattern does not allow to differentiate from other Poaceae species from other subfamilies |
| 114576035342 | 3 | Avena | 50% | The waves were very thin and pointed like Avena. I couldn’t find any papilla to examine |
| 114573876642 | 3 | Triticum | 65% | Wave pattern and hyper dendritic nature of the spikes |

Figure 2a – r. Correct Answer: Triticum (Random)

A close-up of a microscopic view of a plant cell

AI-generated content may be incorrect.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Respondent ID | Exp. | Identification | Confidence | Descriptions |
| 114698657503 | 3 | Triticum | 40% | Initially on wave, as other features less clear |
| 114608398619 | 3 | Hordeum | 20% | I think this looks like barley but I wouldn't ID it as such if I found it in an archaeological assemblage. There aren't enough diagnostic features |
| 114593798403 | 2 | Hordeum | 10% | The margins of most elongates in this photo seem to be V-shaped, like those of Hordeum. That said, in some areas of the silica skeleton, there are margins of phytoliths that could belong to Triticum, being less 'pointed' and with extrusions more separated from each other. Similarly, the papillae could belong to Triticum as well, judging by the pits, or to Hordeum, considering their shape |
| 114591055078 | 1 | Avena | 7% | Short acute bulbosus on the outside |
| 114589291701 | 3 | Unidentifiable | 50% | Not enough papilla |
| 114587903811 | 3 | Triticum | 50% | I am primarily basing the shape of the wave pattern. I don’t clearly see papilla here. I’m split here between Hordeum and Triticum pretty evenly. I wouldn’t identify this in an archaeological sample |
| 114586405069 | 3 | Triticum | 70% | Pattern seems clear |
| 114584712002 | 2 | Triticum | 75% | Bigger long-cells, wider and more rounded waves than in barley and oat |
| 114578272638 | 2 | Unidentifiable | 70% | A few trichomes are also present in this photo, but this is a feature common to many herbaceous plants |
| 114577309146 | 1 | Unidentifiable | 71% | Due to the wave pattern (specially the ending of the long cells), this is probably Hordeum, though I would perform morphometric analysis to be sure |
| 114576035342 | 3 | Unidentifiable | 100% | Could not find papilla to ID |
| 114573876642 | 3 | Hordeum | 65% | Shape of the phytoliths themselves and then the wave pattern round them. Prioritised the overall mass silica skeleton. I’m still skeptical of genus/species level approaches generally though |

Figure 2a – n. Correct answer: Triticum (AI)

A close-up of a microscopic view of a plant

AI-generated content may be incorrect.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Respondent ID | Exp. | Identification | Confidence | Descriptions |
| 114698657503 | 3 | Avena | 10% | Based on shape of waves, unsure about the other features |
| 114608398619 | 3 | Avena | 30% | based this on wave pattern but would have liked to be able to zoom in and out to see the papilla |
| 114593798403 | 2 | Triticum | 20% | I would say it's Triticum because of the overall dimensions of the elongates, with fairly prominent clavate margins and short sides lacking pronounced extrusions |
| 114591055078 | 1 | Unidentifiable | 13% | I would need to use reference material and really look at this one, gut instinct makes me lean towards Triticum |
| 114589291701 | 3 | Triticum | 75% | Irregular wave pattern |
| 114587903811 | 3 | Triticum | 50% | Wave pattern and dendritic width and shape, and papilla size/diameter |
| 114586405069 | 3 | Triticum | 70% | Pattern seems clear |
| 114584712002 | 2 | Triticum | 90% | Thick long-cell, cf. T. boeticum. High rounded waves (meaning long 'arms' of the long-cell'). Narrow waves (meaning little distance between the 'arms') |
| 114578272638 | 2 | N/A | N/A | N/A |
| 114577309146 | 1 | Triticum | 66% | Due to the wave pattern, this is probably Triticum |
| 114576035342 | 3 | Triticum | 75% | Wave pattern is very Triticum-like. Right number of pits |
| 114573876642 | 3 | Triticum | 65% | Wave pattern and the hyper-dendritic nature of the phytoliths, long spikes |