ETMY | FARM & RANCH FIELD GUIDE

How to Choose Two-Way Radios for Winter Farm and Ranch Work

Winter changes the communication job on a farm or ranch. A crew may be checking livestock, clearing a lane, moving feed, inspecting water systems, or working across a property while snow, wind, buildings, and distance complicate contact. Choosing a radio by acreage or advertised range alone can leave a coverage gap where it matters most.

A better selection starts with the work map. Identify where people need to reach one another, decide whether your team needs direct radio coverage or a network-based system, and compare the radio and battery specifications with the actual conditions. Then test the proposed setup on your property before buying a full fleet.

1. Map the winter work before comparing radios

Start with the people, tasks, and routes that matter during a normal winter day and during a disruption. Mark barns, equipment sheds, feed storage, water points, gates, loading areas, livestock zones, field edges, and the routes workers drive or walk. Add low spots, hills, tree lines, metal-sided buildings, and places where a worker might be out of sight.

A farm map helps reveal the real communication problem. One crew may need reliable contact between a barn and a nearby machine shed. Another may need to reach a worker checking a distant pasture from a moving vehicle. Those are different coverage tests. The University of Minnesota Extension recommends mapping farm buildings, access routes, fences, gates, livestock locations, and utility shutoffs as part of farm emergency planning. That same map can guide radio walk tests and check-in points. See the UMN Extension farm emergency action plan.

Do not treat acreage or a manufacturer's maximum-range figure as a coverage guarantee. Actual performance depends on the radio system, antenna setup, terrain, obstructions, installation, interference, and the locations of the radios. Test from the places workers will actually use them, including inside buildings, at gates, in vehicles, and at the farthest regular work point.

2. Choose the type of system that fits the property

Direct two-way radio

Conventional analog or digital radios communicate over configured radio frequencies. Depending on the system and terrain, handheld units may communicate directly, or a properly designed system may use a base station or repeater. This option can suit a team that needs local push-to-talk communication without relying on public cellular coverage at every point.

Before buying, confirm that all radios are compatible in frequency, channel programming, and digital mode or signaling. “Digital” by itself does not mean two radios will communicate. Ask the supplier to confirm the exact configuration and, where possible, arrange a loaner or demonstration for a property test.

Cellular push-to-talk (PoC)

PoC radios use cellular data or another supported network to connect users. They can be useful when workers are spread across a broad area or multiple sites, provided the required network has usable coverage where those workers operate. Verify coverage along field routes, inside barns, and at the edges of the property with the specific carrier and service plan. A map showing general cellular availability does not prove that a particular work point will have dependable service.

A practical decision rule

Choose based on the coverage test and operating dependencies. If the critical work areas lack dependable cellular service, a PoC-only plan may leave gaps. If a direct-radio system cannot cover the required locations without additional infrastructure, price and test that infrastructure before choosing it. Some operations may use more than one communication method as a backup; write down which method workers should use if the primary system fails.

3. Read cold-weather specifications carefully

Product listings may show an operating-temperature range, a storage range, and a battery charging range. These numbers answer different questions. Check the range for the complete radio and the separate instructions for its battery and charger. A radio's stated operating range does not automatically mean its battery can be charged at the same temperature.

Cold can reduce the available performance of rechargeable batteries. The amount depends on the battery design, temperature, age, workload, and radio settings. For a winter fleet, ask the manufacturer or supplier for expected performance under your use pattern and follow the battery-specific charging instructions. Do not infer a full-shift runtime from battery capacity alone.

Plan a winter battery routine:

- Start each shift with charged batteries and a clear way to identify spares.
- Keep spare batteries and charging equipment in the temperature conditions specified by their manufacturer.
- Charge batteries in the approved temperature range and with the recommended charger.
- Test runtime during a representative shift in cold weather, including the team's normal call volume and accessories.
- Set a low-battery check-in rule and decide who carries a spare.

If your fleet uses lithium-ion batteries, consult the battery manufacturer before charging a battery that has been exposed to temperatures outside its specified charging range. Battery charging limits vary by model; do not use a general rule in place of the product manual.

4. Match durability and controls to winter tasks

Winter work can involve snow, rain, mud, dust, wet gloves, and repeated movement between warm and cold spaces. Look at the radio's ingress-protection rating and read what the rating covers. A rating such as IP67 describes tested dust and water protection under specified conditions; it does not establish cold-weather suitability, impact resistance, or suitability for every kind of exposure. Confirm each requirement separately in the product documentation.

Try the radio with the gloves workers actually wear. Check whether they can operate the push-to-talk button, adjust volume, recognize channel settings, and use the emergency control without removing gloves or looking down for too long. Consider a speaker microphone or earpiece only after checking connector compatibility, weather suitability, and whether it will work with the team's PPE.

For tractors and other vehicles, check how the radio will be secured, how the microphone will be reached, and whether engine noise affects intelligibility. Confirm that the selected mounting or accessory arrangement is supported by the radio manufacturer.

5. Check legality and compatibility before ordering

In the United States, a radio's frequency configuration and authorized service matter. An FCC equipment authorization or label alone does not grant permission to transmit on every frequency the radio can tune. Depending on the service and configuration, a farm operation may need to follow service-specific rules or obtain a station authorization. Verify the exact model, programmed frequencies, intended users, and required authorization before transmitting. ETMY's guide to FCC licensing for business radios provides a starting comparison; confirm your situation against current FCC rules or a qualified radio provider.

Also ask whether the new radios will work with the units you already own. Compatibility may depend on frequency, channel spacing, analog or digital mode, signaling, encryption settings, and programming—not just the brand name or the fact that both radios are advertised as “two-way.” Have the supplier confirm the settings in writing before purchase.

6. Use the product page as a checklist, not a substitute for a field test

For example, the current ETMY ET-D330 product listing identifies an IP67 rating and a working-temperature range of -20°C to +60°C. Those listed specifications can be compared with the conditions on your farm, but they do not establish coverage on your property or confirm that every regional version is appropriate for your frequencies and authorization. Check the exact SKU, battery and charging instructions, frequency configuration, and official documentation before considering a specific unit. Review the ETMY ET-D330 product details.

The example illustrates a useful buying habit: compare each listed specification with a real requirement, then verify anything the listing does not answer. Ask for a demonstration or pilot set, and test it at the locations on your map before placing a fleet order. You can also compare current ETMY two-way radio models by their exact configuration and documentation.

7. Run a farm-specific acceptance test

Before committing to a full order, take the proposed radios through a normal work route and a winter-relevant route. Test from both ends of each important communication path. Include:

1. Inside the main barn, equipment shed, and other high-priority buildings.
2. At gates, water points, feed areas, and the farthest regular pasture or field location.
3. From vehicles with doors closed and the engine running, where applicable.
4. Along low spots, tree lines, and routes workers use in poor weather.
5. At the coldest realistic temperature you can test safely, while recording battery behavior and following the manual.

Use a simple pass/fail log: location, radio pair, voice clarity, missed or delayed calls, battery level, and any dead spot. Repeat unclear tests. If a route fails, ask the supplier about antenna placement, a different approved configuration, added infrastructure, or another communication method. Retest the proposed fix before rollout.

A radio check is not a complete emergency plan. Define who calls whom, which channel or group is used, what words identify an urgent request, and what backup method applies if no one answers. OSHA's winter-weather guidance recommends a reliable way to communicate with workers, especially in remote areas, and planning for when work must stop or workers must evacuate. Review OSHA winter-weather preparedness guidance. Build the radio procedure into the farm's broader emergency plan and train every user.

A winter farm radio buying checklist

Before you order, make sure you can answer these questions:

- Which people, buildings, fields, gates, and routes must stay in contact?
- Have the proposed radios been tested at those exact points?
- Does the system depend on cellular coverage, a repeater, or other infrastructure?
- Are the radios compatible with the team's existing equipment and programming?
- Do the radio and battery documentation cover the expected operating, storage, and charging temperatures?
- Can workers use the controls with winter gloves and required protective equipment?
- Are the water, dust, impact, and accessory requirements verified separately?
- Are the exact frequencies, radio configuration, and FCC authorization appropriate for the planned use?
- What is the check-in, low-battery, missed-call, and backup-communication procedure?

Frequently asked questions

What is the best two-way radio for farm use in winter?

There is no single best model for every farm. The right choice depends on the routes and buildings that need coverage, the available cellular service, the radio system, cold-weather specifications, battery routine, and the frequencies your operation may lawfully use. A property test is more useful than choosing from an advertised range number alone.

Will a higher-power radio cover my entire ranch?

Not necessarily. Output power is only one part of a radio system, and it cannot guarantee coverage through every building, hill, or low spot. Test the specific, authorized system at the locations where workers need to communicate. If handheld-to-handheld coverage is insufficient, ask a qualified provider to evaluate approved infrastructure or another system.

Does an IP67 rating mean a radio is ready for winter?

No. IP67 addresses dust and water protection under defined test conditions. Review operating temperature, battery temperature limits, charging conditions, impact protection, and accessory ratings separately.

Should I choose a conventional radio or a PoC radio?

Choose after testing the required work areas and checking dependencies. Conventional radios use their configured radio system and may need infrastructure for broader coverage. PoC depends on the supported network at the workers' locations. A system that fails at a critical barn, field, or route is not a good fit regardless of category.

Do farms need an FCC license for two-way radios?

It depends on the radio service and exact configuration. Some services are licensed by rule, while others require a station authorization; device certification does not itself authorize every frequency. Confirm the intended frequencies, radio configuration, and current FCC requirements before transmitting.

Choose for the work your team actually does

A winter-ready farm radio plan begins with a map, a clear communication procedure, and a test at real work locations. Compare coverage dependencies, temperature specifications, battery and charging instructions, durability, controls, compatibility, and authorization. Then trial the proposed system with the workers who will rely on it. That process gives you a concrete basis for selecting radios that fit your property and winter routine.