Fire Prevention Plan

Farm Name Smith Farms

Preventing Equipment-Generated Fires

Equipment will be inspected (*monthly etc.*) twice a month by (*names*) Joe Smith

Inspection will include (exhaust system, spark arrestors, etc.) fluids, turbocharger, spark arrestors, and exhaust

Extinguishers are mounted on all heat producing equipment, including (*combine etc.*) all atvs and utvs, Dodge farm truck, combines, tracked and wheeled tractors, Freightliner farm truck

Debris will be blown off of equipment (name i.e. combine) both combines

(*daily, hourly, etc.*) daily by Joe Smith, John Doe

Debris will be blown off of vehicles (*daily, every hour, etc.*) twice per week by Joe Smith

Maintenance of Fire Extinguishing Equipment

The following people have been trained annually on fire extinguisher use Joe and Jane Smith, Bill and Susy Smith

Fire extinguishers have been serviced by a certified inspector (*name*), Fire Chief Fred, on (date) 8/09/21

Joe and Jane Smith (*names*) know how to start water pumps located on (*truck, UTV, etc.*) all UTVs and trucks and can operate safely during a fire

Water pumps have been inspected on (*date*) 05/05/21 by (*name*) Joe Smith

Water pumps will be tested (*weekly etc.*) Daily from (*date*) May 1 through Sept. 30 by Jane Smith

Water and fuel levels in suppression equipment are kept full and checked (*weekly*) daily by Jane Smith. Disk with working tractor is kept on site of farming operations and (*names*) Joe Smith know how to safely operate it and put in a fire line.

Risk Reduction

Asset Protection

The following farm and rangeland assets are the most critical for farm operations and will be prioritized to protect from wildfire (areas where fire could impact structures, watering, fencing, or other key infrastructure):

1. House
2. Rental house
3. Barn
4. Farm Shop

Reduce Fuels

The following actions can be taken to reduce fuels around key farm assets:

1. Pastures around house will be grazed in the late spring prior to the fire season
2. Grasses will be mowed within 30 ft of all structures
3. Herbicide will be applied 5 ft around the base of power poles to control annuals
4. 10 ft surrounding the barn and farm shop will be graveled and sprayed with herbicide

Maintained fuel breaks in strategic areas (*maintained roads, two tracks, mowed areas, annually disked areas, or vegetative green strips*) on the farm include (*list type of fuel break and location if you have any*):

1. Vegetation is mowed on 5ft of either side of the driveway
2. Middle sections of two tracks (mowhawks) are bare, vegetation is sprayed with herbicides
3. Vegetative fuel break of Yarrow behind the barn
4. Fields in crop have are disked 10 ft around the perimeter

Mitigate Ember Traps

Ember traps (eaves etc.) are permanently covered at the following locations with metal screening (1/8 inch):

1. The under side of the house deck is screened
2. Eaves are screened on the house, farm shop, and barn
3. Vents on the house and rental house are screened
4. Crawl space vents are screened on all buildings

Ember traps at the following locations (barn openings etc.) can be temporarily covered (with tarps etc.):

1. Upper barn vents will be tarped in the event of a wildfire
2. Straw bales will be covered with fire resistant canvas tarps
3. Open combine shed will be covered with a tarp in the open entry way
4. _____

Sprinkler Protection:

Priority structures for sprinkler protection on the farm are as follows (in order of priority):

House and barn

Sprinkler equipment can be found back left of farm shop and includes:

sprinklers and hoses that are labeled to match sprinkler posts already on structures

Back up water / cisterns can be found Back up water can be gravity fed from the cistern behind the house.

Identifying Hazardous Conditions

Before a fire:

Potential on farm ignition sources outside of your control include (*roads, power lines, wind turbines, etc.*):

1. I 84 goes through the farm
2. BPA transmission lines go across the southern part of the farm
3. Wind turbines are on the neighbors property to the west
4. Railraod tracks go through the north end of the farm

Heavy fuel loadings of annual grasses (*medusahead, cheatgrass, etc.*) are at the following locations:

100 ft behind the rental house

At the intersection of the driveway with the main county road

Areas on the farm that should be avoided during a wildfire include (*location and nature of hazard*):

Pesticide storage shed behind the farm shop

Propane tank 30 ft behind the farm shop

Terrain features on the farm that could create dangerous fire behavior include (*steep slopes, canyons, etc.*):

Steep slope going up to the rental house

Criteria to Terminate Work with Heat Producing Equipment

Establish criteria to terminate work with heat producing equipment in the field during hazardous fire weather using relative humidity (RH), temperature, winds, and fuel conditions (*for example RH $\leq$ 30%, temp $\geq$86°F, winds $\geq$ 20 mph*). OHSA is not creating any set criteria to force producers to shut down, but are requiring producers to set their own criteria. Consider not using heat producing equipment under low RH and high temperatures once wind speeds exceed a given threshold, i.e. stopping when winds are greater than 30-35 mph (often winds are the strongest in the afternoon when RH is lowest at 4 pm). Criteria can also take into account producer and crew experience, field topography, and on farm fire suppression equipment.

During the fire season work will be terminated for the day once winds exceed 30 mph if the temperature is above 95F and RH is below 20%, unless a disk with tractor and water are on site and then work will continue up to 35 mph winds

Safety Procedures at the Worksite

When there is the potential for a fire to start accidentally due to the nature of the work being done or due to weather conditions, crews will follow these steps:

a. Establish two escape routes from your work location to a safety zone
b. Identify safety zones that are permanent (area with rock or gravel with little fuel) or have been created (disked) – a safety zone is an area where you can safely sit and watch the fire go by
c. During harvest: Each field will have a designated safety zone and all employees will be made aware of its location. If no natural safety zone exists, one will be created by a tractor and disk. All equipment will be parked at night in the safety zone, similar location devoid of fuels, or at gravel spot outside of combine shed

Procedures for Reporting Fires

If a fire starts 911 will be reached and the location of the fire will be given (*street addresses preferred*), along with a fire size up (fire size up checklist on pg. 6). A list of addresses for most locations on the farm is located farm shop office, Hazcom folder (*location of address list*). However, other descriptors can also be used to help others get to the location quicker (*e.g., the Smith Place, etc.*). Others to be contacted also, in order of priority: Jane Smith

Procedures for Engaging Wildfires

When a fire occurs at the work site it shall be initially controlled with fire extinguishers if in the incipient stage. If it is already beyond the incipient stage or grows into a larger free burning fire than those not trained must leave immediately. The following employees have received firefighting training and may engage in suppressing a free burning fire:

John and Jane Smith

Additional procedures or considerations for employees engaging in wildfire: Safe anchor point will be established before engaging the fire, employees will have on proper PPE before engaging in a free burning wildfire

Wildfires in dryland crops can produce flame lengths 7 to 16 ft at the head of the fire, making suppression with shovels and other hand tools dangerous and ineffective unless at the heel or flanks of the fire where intensity is often lowered. Tractors and discs are needed to create effective fire breaks. Engines or trucks spraying water need to be in the black (assuming the black is clean without large unburned patches) rather than in unburned fuels in the path of the fire where a fast-moving grass or wheat fire can easily overtake vehicles.

Before entering an area to fight fire, follow LCES procedures.

Establish a LOOKOUT

Set up COMMUNICATION

Determine an ESCAPE ROUTE

Designate a SAFETY ZONE based on the conditions in the area.

If a fire safety zone is needed while working in the field employees will use an area that is bare ground, gravel, clean black, or one shall be created with disc. Two escape routes will be maintained to the safety zone during wildfire suppression. *Safety zones for most crop fires should be 1/10 of an acre for one farm truck and a separation distance of at least 40 ft from flames - more people and more equipment will require a larger safety zone, along with if area is upslope and downwind of the fire (area should be at least doubled if on a 20-40% slope or under heavy winds) - safety zones upwind, on flat ground, and not in front of the main fire front are the safest.*

Considerations that will be taken during a fire:

a. Fire size and speed of growth - is the fire small or several acres in size? Is it being pushed by winds or burning quickly up steep slopes?
b. Fuel load of the area you are planning to enter - unharvested crop, harvested crop, rangeland, or rocky scab area? Are annual grasses present? Scotch broom or other volatile plants?
c. Weather conditions - wind speed and direction, temperature, humidity, atmospheric stability?

d. Terrain - is the fire burning uphill, downhill, into a steep canyon, or on relatively flat terrain?
e. Potential communication barriers - does terrain make cell reception unreliable?

Response Equipment and resources to aid in fire suppression

Equipment Type	Number at (location):	Number at nearby location:
Tractor, HP 50, bucket (y/n) No	1 at house	
Dozer, HP 175	1 at farm shop	1 at neighbors
Disc / plow for firebreak construction	1 in field	
Livestock trailer for 16 # of cows (type of animals)	1 at house and 1 at farm shop	
Pumper units with 300 gallons	1 at combine shed	
Portable water pump	1 in farm shop	
Utility trailer, large enough to haul 2 UTVs	1 at house	
Pickup Trucks	2 in the field	
Passenger Car	1 at house	
UTV / ATV with pumper	2 with 50 gallons of water at house	
UTV / ATV no pumper		
Fire hose		
Sprinkler Kits	1 in farm shop	
Garden hoses	2 at rental house	
Generator	In the pump house - start of driveway	
Personnel with wildfire training	2- John and Jane Smith	

Water sources:

Water Source	Capacity	Type of pump (electrical, gravity fed, or gas)	Location
Well	unlimited	electrical	at start of driveway to the house
Cistern	1,000 gallons	gravity fed	behind farm house

Other additional measures to prevent wildfires on your property or equipment: Neighbors have a pond where water can also be accessed - at the end of Farm Way Rd just west of this farm

Fire Size Up

When fire is reported to 911 and others the following fire details should be included:

Fire Location (street address is preferred):

Road Access:

Is the road flagged or will someone meet first responders at a set location?

Size: ☐ 100 by 100 ft ☐1 acre (size of football field) ☐5 acres ☐5-10 acres ☐Greater than 10 acres

Fuels Burning: grass, brush, harvested wheat, unharvested wheat, no till residue on fallow, other crop, slash, timber, duff, logs, other?

Fuels adjacent to fire: grass, brush, harvested wheat, unharvested wheat, no till residue on fallow, other crop, slash, timber, duff, logs, other?

Character of Fire: ☐Smoldering ☐Creeping ☐Running ☐Torching ☐Crowning ☐Spotting

Flame Lengths: ☐Under 2 ft ☐2-4 ft ☐4-8 ft ☐8-11 ft ☐over 11ft

Percent Slope: ☐0-30 ☐30-45 ☐45-60 ☐60+

Position on Slope: ☐Bottom 1/3 ☐Middle 1/3 ☐Top 1/3

Aspect: ☐North ☐South ☐East ☐West

Wind Speed (mph): ☐ 0-5 ☐5-10 ☐10-15 ☐Over 15 ☐Over 25 ☐35+

Wind Direction: ☐North ☐South ☐East ☐West ☐Upslope ☐Up Canyon ☐Down Slope ☐Down Canyon

Spread Potential: ☐None ☐Low ☐Moderate ☐High ☐Very High

Values at Risk: ☐Residences ☐Infrastructure ☐Cultural / Historical ☐Commercial ☐Power Lines ☐Livestock ☐Public Safety / Travel ☐Stored Hay ☐Stored Grains ☐Farm Equipment

Are closures or evacuations needed? Where is the fire anticipated to go given current winds and terrain?

Hazards: ☐Power lines ☐Wind turbines ☐Oil/gas line or tanks on farm ☐Terrain ☐Communication Towers ☐Traffic (especially interstates and highways) ☐Hazmat (farm chemicals)

Apparent Cause: ☐Lightning ☐Arson ☐Equipment ☐Roadside start

- *Protect origin area of the fire for fire investigation*

Template created February 2020 by Jacob Powell with OSU Extension Service in collaboration with Oregon wheat producers. Updated January 2021.