

## Hay Baling

Large hay bales, some weighing up to 1,764 lbs., have killed and seriously injured many farm workers. Bales, both round and rectangular, can fall on tractor and forklift operators, topple off stacks and vehicles on workers or bystanders, and collapse when stacks fail.

### Spot the hazard

Look for hazards relating to:

#### Handling:

- Children playing near hay balers, carriers and stackers.
- Training of operators handling tractors, front-end loaders or forklifts.
- Use of two-poster tractor ROPS for baling - they offer no operator protection from bales falling back off forks or bale-loading frames. Tractors with cabs, FOPS (fall on protective structure) or four-poster ROPS are safer.
- Makeshift or poorly fitting bale-loading attachments on tractors and forklifts.
- Carrying bales too high off the ground.
- Insufficient counterbalance on tractor or forklift vehicle.
- Hydraulic control valve should be specific to the front-end loader attachment.

#### Baler operation:

- Baler properly connected to the tractor.
- Adequate safety guards fitted.
- Nobody allowed riding on the baler.
- Prevent others getting too close to the baler.
- Build-up of loose, combustible material in the baler.
- Fire extinguisher fitted to the machine.
- Disengage PTO and apply fly wheel brake prior to making baler adjustments.
- Stop engine and apply fly wheel brake before repairs or "stringing up" the baler.
- Extra care and attention when reversing or turning the machine,
- working at night,
- loading onto a truck, and unloading.

#### Stacking:

- Loading and stacking on uneven ground.
- Stacks under or near overhead power lines
- Stacks of round bales inadequately chocked and border posted.
- Damaged bales at base of stack - e.g. from vehicles, cattle or rodents.
- Unstable heights and loose stacking.
- Bales stacked higher than safe operating height of farm tractor or forklift.
- Children playing on stacked bales, particularly during stacking or unstacking.
- Lack of training, experience and protection for people doing hay baling, stacking and loading.
- Handling more bales than safe for the loader.

#### Transporting:

- Sturdiness of trailers carrying heavy loads of bales.
- Restraining frames back and front of trailer.
- Hooks fitted so ropes can be used to secure load.
- Roads too close to or below power lines.
- Rough terrain causing bales to become unstable.
- Safe speeds at all times.
- People riding on loaded hay trailers - highly dangerous.

## **Assess the risk**

Check each hazard that has been spotted to assess:

- Likelihood - how likely is this hazard to injure someone? and
- Severity - how severe would that injury be?

List all the hay baling and stacking hazards spotted, and number them in order of priority, so that those most likely to cause injury or harm can be tackled first.

Because most large hay bales can kill or seriously injure anyone they fall or roll on, any risk of a hazardous incident should be assessed as requiring urgent attention. And as children are the most vulnerable, consider child injury risks top priority.

## **Make the changes**

### **Handling:**

- Keep children away from hay baling and stacking operations.
- Make sure operators and handlers are properly trained and physically capable of tasks.
- Consider fall-arrest protection for people working at heights.
- Use tractors with four-poster ROPS, FOPS or cabs for protection against falling bales.
- Replace risky attachments with manufacturer approved attachments.
- Ensure loader or forklift operators transport bales close to the ground.
- Avoid sharp turns and unsafe speeds.
- Make sure vehicle controls are fitted specifically for the attachment in use.

### **Stacking:**

- Stacks should be on firm, level ground, away from fire hazards, sources of ignition, overhead power lines, dwellings, boundary fences and footpaths.
- Make sure stack and load heights do not exceed the lifting capabilities of the farm handling equipment.
- Big bales should be stacked to a maximum of four bales high.
- High density bales can be stacked up to six layers high.
- Wherever possible, stack big rectangular, square or high density bales by overlapping, to form a stable stack.
- Do not use bale lifting equipment to raise people on or off stacks.

### **Transporting:**

- Do not allow people to ride on stacked trailers.
- Be aware of overhead obstructions, like trees, bridges and power lines.
- Avoid rough ground that could cause bales to dislodge.
- Ensure loads are adequately secured.
- Do not overload vehicles beyond legal limits.