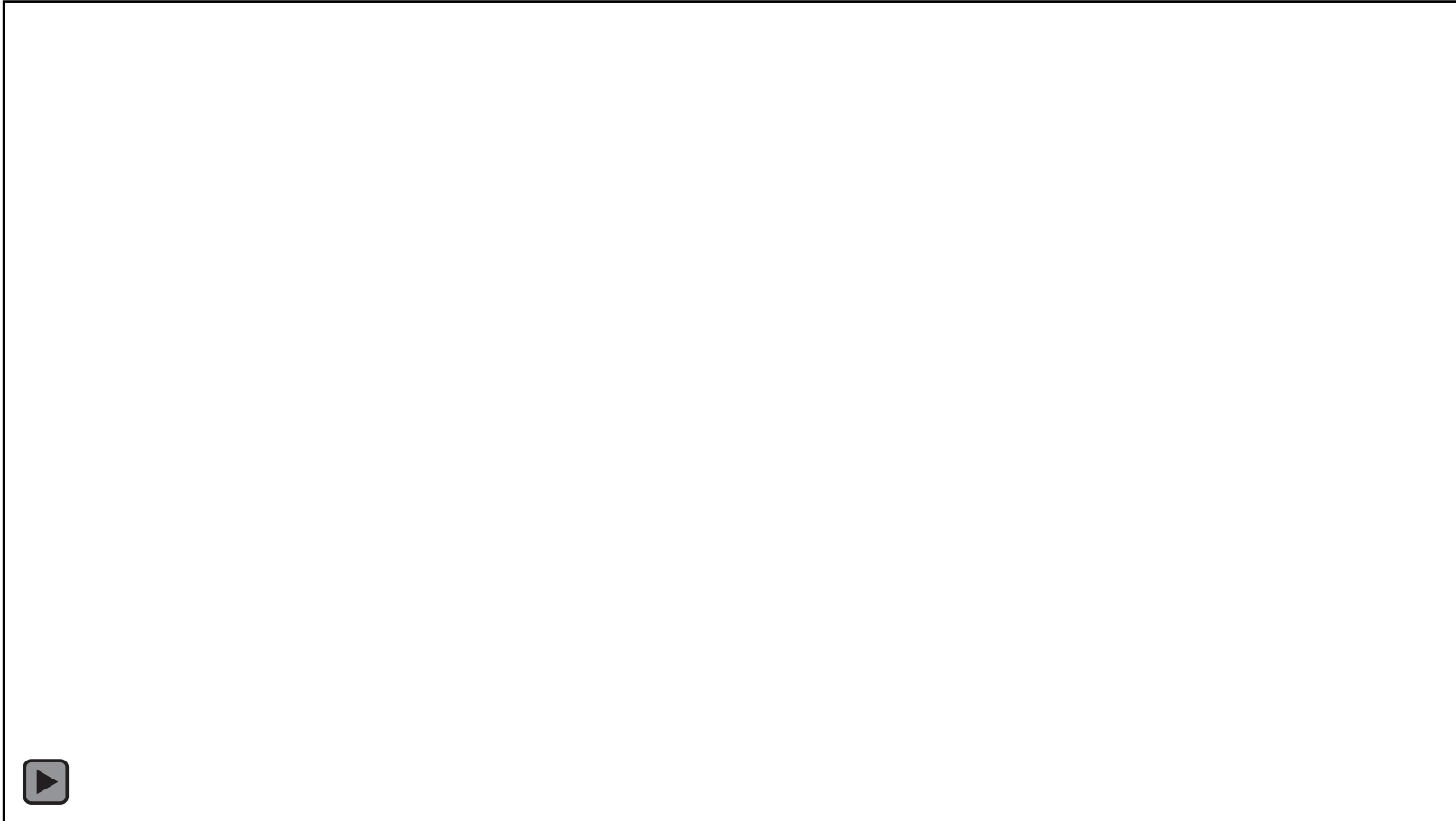


PRODUCTION INTEGRITY

Mike Boyd







PRODUCT QUALITY





LAW OF UNINTENDED CONSEQUENCES



LAW OF UNINTENDED CONSEQUENCES:

**OUTCOMES THAT ARE NOT THE ONES FORESEEN OR INTENDED
BY A PURPOSEFUL ACTION.**



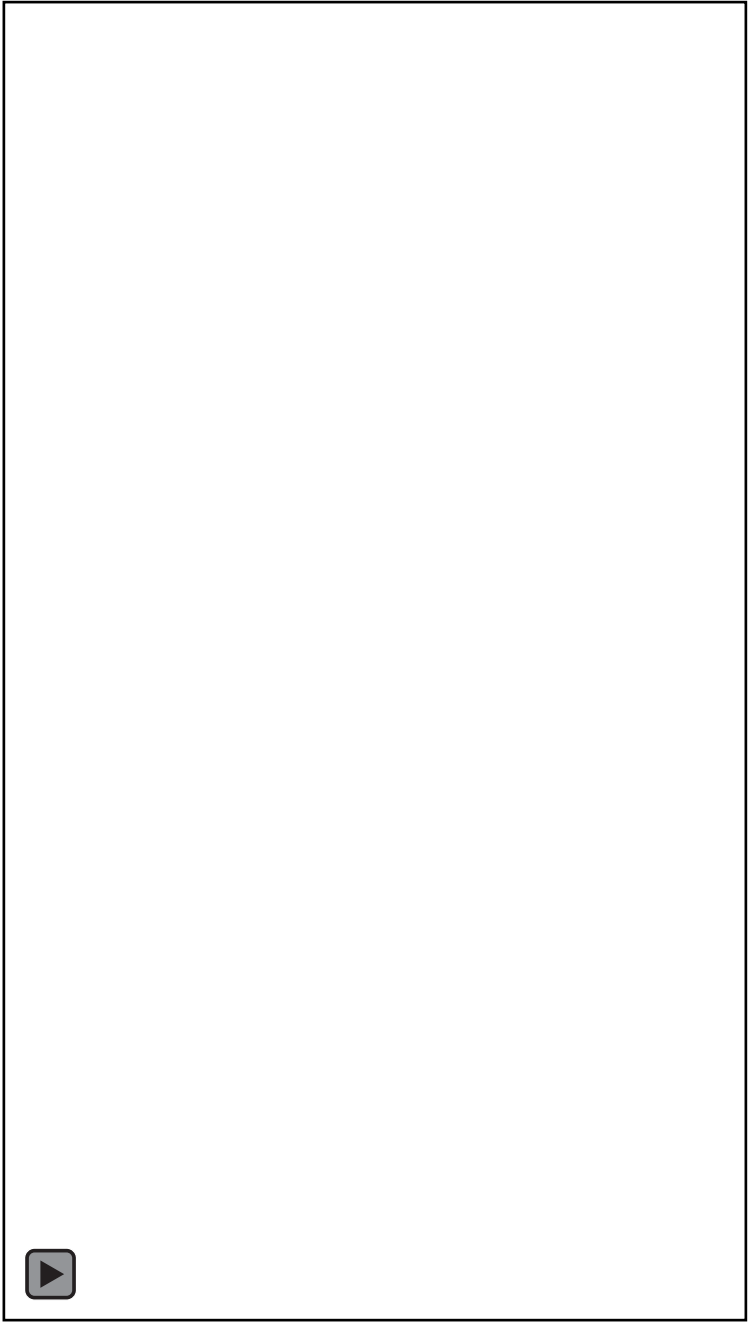


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CRYSTALS



BLOATING





SEPARATED PRODUCT



WHAT STEPS ARE IN PLACE FOR IMPROVEMENT?



PURCHASE
THE HIGHEST
QUALITY
MATERIALS





CHECK THE
CERTIFICATE
OF ANALYSIS
OF INCOMING
MATERIALS





Steps to building a product

1. Obtain work order
2. Stage materials
3. Verify correct ingredients and quantities
4. Proceed with build
5. Check quantities against scale



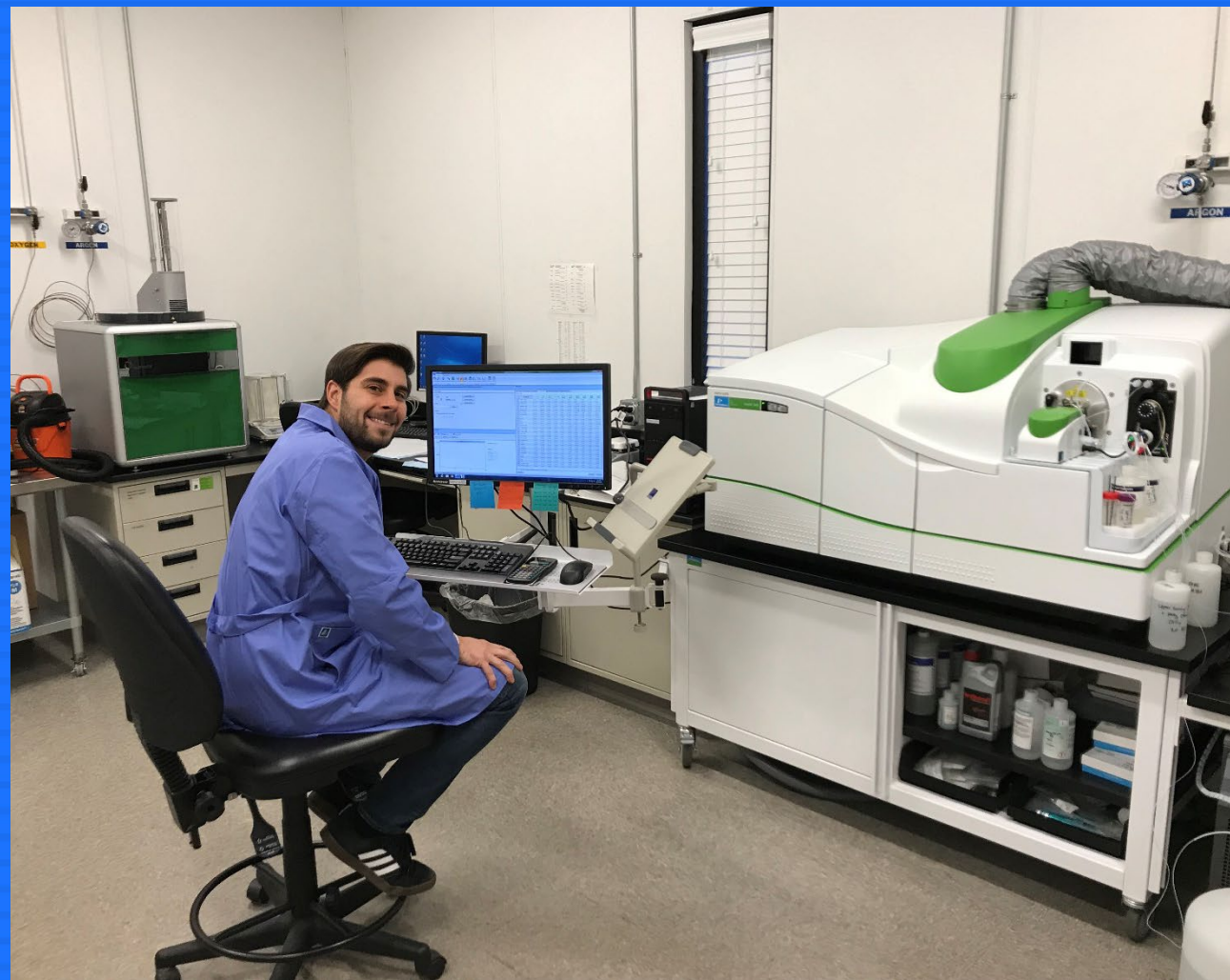


SAMPLE
FINISHED
PRODUCT





ANALYZE
FINISHED
PRODUCT



IF PRODUCT PASSES ANALYSIS THEN IT MOVES TO TANK FARM



IF PRODUCT FAILS THEN IT MOVES BACK TO THE MIXING TANK AND IS REWORKED





FORMULATION TEAM



SHORT-TERM STABILITY

Three cycles of 24 hours in specific temperatures (4°C, 50°C, and -15°C) followed by 24 hours at room temperature. Results are taken when sample has acclimated to room temperature (25°C).





PRODUCTION CAPACITY

What is our production capacity?

Right now, we are running at about 20%. We could do 5 times the output with little to no investment.



PACKAGING QUALITY



THEY HAD ONE JOB



UNDERCOVER





YOU HAD ONE JOB.



YOU HAD ONE JOB

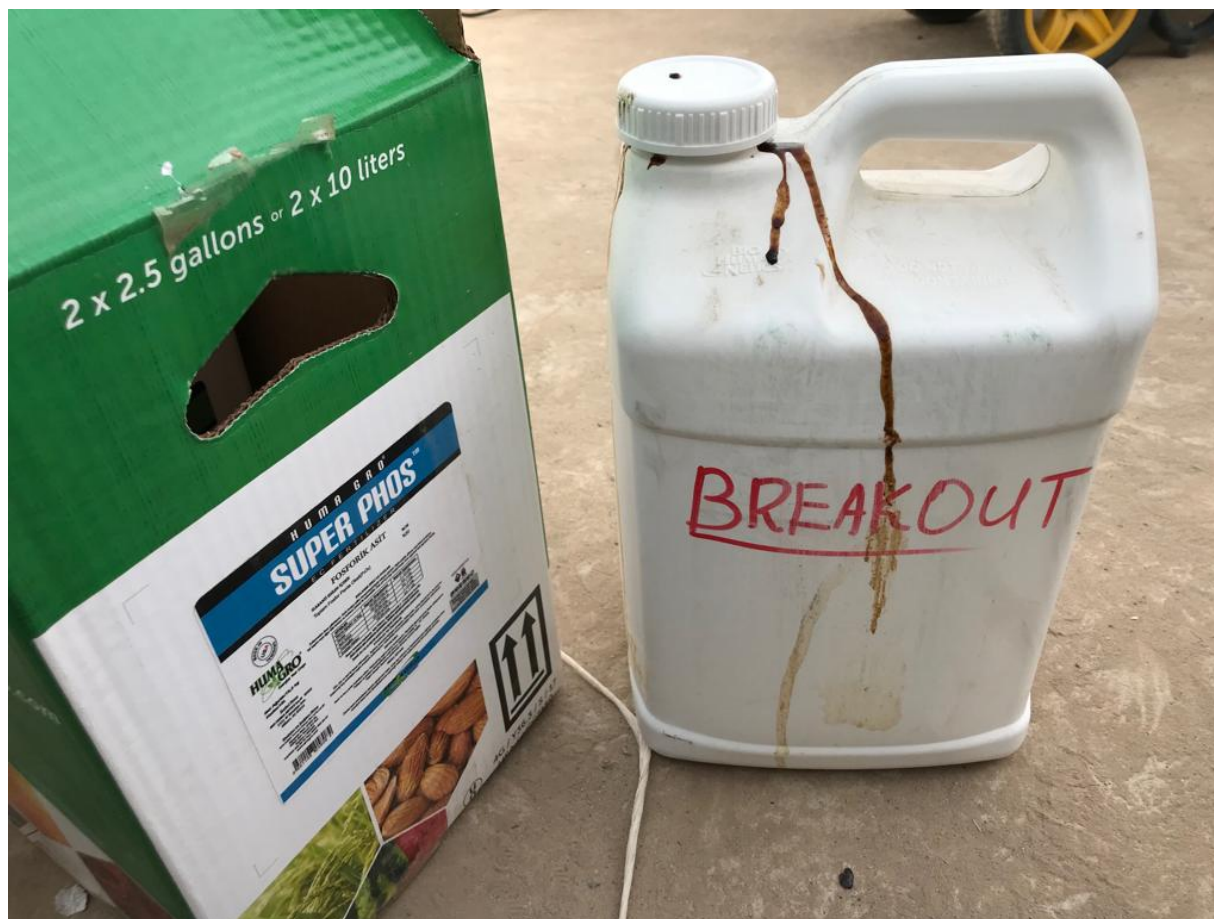






THIS MAN
ALSO HAS ONE
JOB







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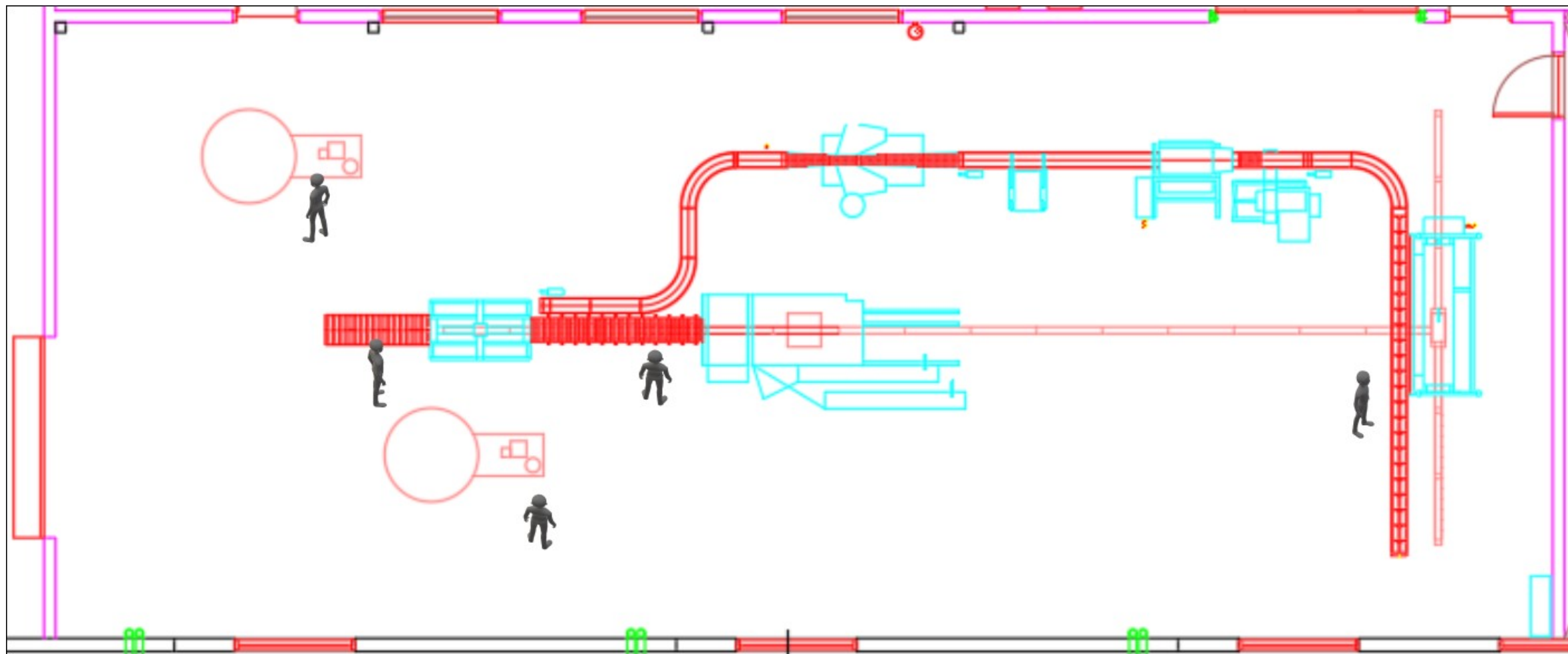
Joe's "one" job includes:
the capper, sealer, labeler, box maker, and box sealer.





CHANGES IN PLACE TO IMPROVE







Installed
New Bottle
Filler





SHIPPING

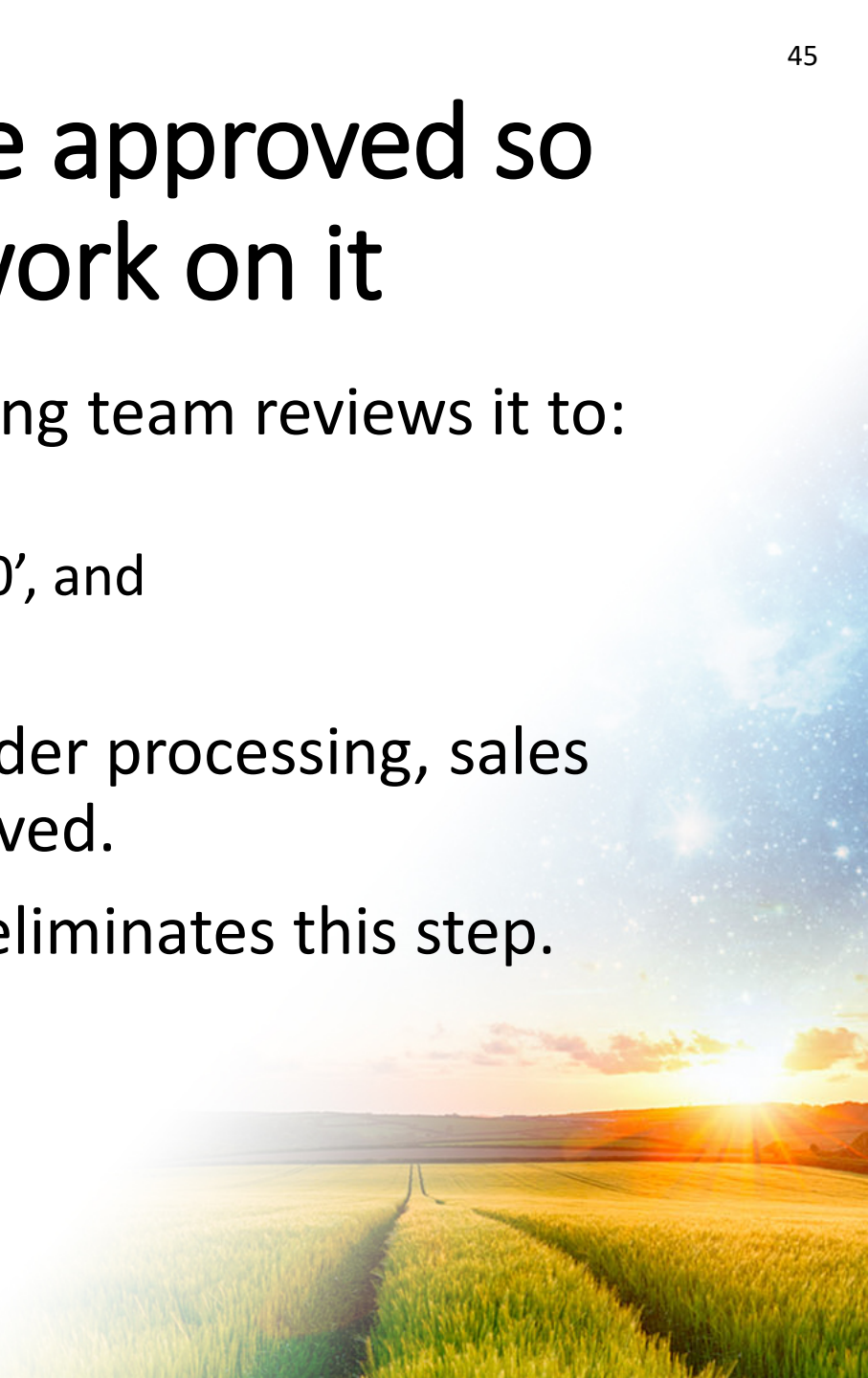
5 Steps an order takes before it can ship

The process for an order to be approved so production can start to work on it

1. When an order is received, the BHN processing team reviews it to:
 - Make sure hazmat products are compatible,
 - Determine if the container needed will be 20' or 40', and
 - Check if the quantities and weights are correct.

If there is an issue, communications between order processing, sales rep, and customer ensues until the issue is resolved.

When customers use the Shipping Optimizer, it eliminates this step.



Simultaneously, Label, Credit, Production, and Proforma approval happens

2. Label Approval

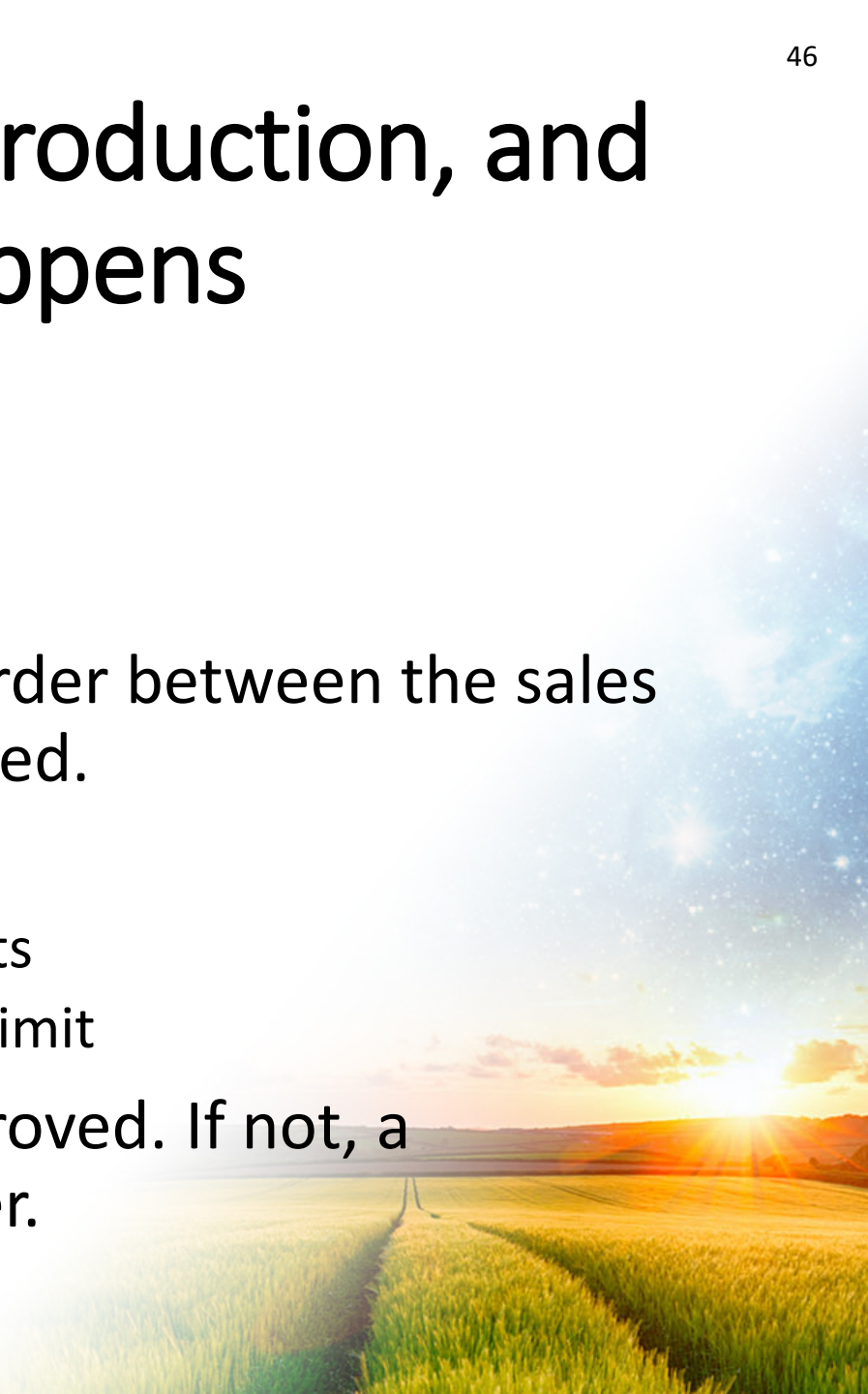
- Label registration reviewed by BHN
- Label sent to customer for approval

If there is an issue, communications about the order between the sales rep and customer ensues until the issue is resolved.

3. Credit Approval

- Check to see if customer has any past-due payments
- Check to make sure customer is under their credit limit

If the customer is in good standing, credit is approved. If not, a payment schedule is discussed with the customer.



4. Production Approval

Production checks to make sure they have all the materials needed. If production needs materials, they are ordered.

5. Proforma Approval

Proforma invoice is sent to the customer for review and approval

- ✓ Products, price, presentation, and quantity
- ✓ Bill-to and Ship-to Addresses
- ✓ Anything else on proforma

**Once the proforma is approved,
production has 20 days to ship the order**



DEVELOPMENT TEAM



New Product Formulation

1. Receive request form for product development.
2. Search for the best raw materials and try to find it.
3. Wait for the raw materials to arrive.
4. Test the raw materials to confirm label claim.
5. Mix the materials in different sequences until the product looks clear and uniform.
6. In case of crystallization or separation:
 - a. Reformulate in different sequences;
 - b. Add stabilizers or emulsifiers;
 - c. Adjust pH;
 - d. Change raw materials or chemicals;
 - e. Start over.
7. Test for nutrients to meet label claims.
8. Test short or long term stability.
9. Check pH and SG.
10. Scale up to 5 gallons.
11. Create a formula for costing.

- SHORT-TERM STABILITY

Three cycles of 24 hours in specific temperatures (4°C, 50°C, and -15°C) followed by 24 hours at room temperature. Results are taken when sample has acclimated to room temperature (25°C).

- LONG-TERM STABILITY

Six weeks of continuous testing at specific temperatures (4°C, 40°C, and -15°C). Results are taken once a week after sample has acclimated to room temperature (25°C).

PERFECTION IS NOT ATTAINABLE, BUT IF WE CHASE PERFECTION WE CAN CATCH EXCELLENCE

-Vince Lombardi



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THANK YOU