



In this issue we will share with you the standard operating procedures at TSG and show how we ensure that our customer receives a top quality product.

Semen Processing & Delivery

Collection Hygiene is critically important in the collection process. Great care is taken to ensure that each ejaculate is delivered to the lab as free of bacteria as possible. All collecting is done into clean, disposable plastic bags, inside insulated containers to maintain proper temperature.

Semen evaluation. Volume and sperm concentration of each ejaculate are recorded on arrival at the lab. A small amount of extender is then added to protect the sperm cells. Next, a sample of each is carefully evaluated for sperm motility (movement) and morphology (size, shape, etc). Ejaculates that do not meet strict minimum acceptability levels are discarded. Final dilution numbers are then calculated for the acceptable ejaculates, and extender is added to the volume required. Ejaculates are pooled by line, with 3 – 5 ejaculates per pool. Next, semen is sealed in tubes and cooled to 18 degrees. After final dilution, a sample is taken from each pool and is evaluated for motility, morphology and sperm concentration, to ensure that all processing was completed properly and only acceptable doses are distributed to farms.

Delivery Orders are packed after the storage temperature of 18 degrees has been reached. Every dose is identified and recorded as orders are filled, ensuring **full traceability**. Almost all orders are delivered to producers by our own couriers. All of our **drivers undergo a detailed training program**, and must attend annual update sessions which outline critical bio-security procedures and semen handling instructions. Deliveries are to be made to locations away from barns in order to minimize disease transmission possibilities.

Quality Control Protocols

Ongoing semen assessment Each ejaculate is evaluated five times for motility and morphology in our lab. Records show analysis at arrival in the lab (1), after fully extended before shipment (2), the day after collection (3), on the 4th day after collection(4) and on

the 7th day after collection(5). If analysis shows that a pool does not meet minimum standards on day 1 or 4, producers are notified and replacement is made.

Semen staining Each boar has a semen sample analyzed using detailed semen staining procedures once each month. This allows for a much more detailed evaluation of the integrity of individual sperm cells. All results are recorded in order to track a boar's quality over time. If deficiencies are identified the boar is removed from the collection schedule until quality improves or the boar is culled from the stud.

Bacteria plating Each collection session (3 per week) 25 pools are sampled for the presence of bacteria. Samples are taken from 4 day old doses in order to monitor quality at the end of the best before period of the semen. Samples of our water source and prepared extender batches are also tested regularly.

Third Party Oversight

PRRS monitoring Every Monday and Friday blood samples are collected from a random sample of boars in every barn and sent for same day testing at U of G. Same-day testing provides results before product is used on the farm.

Semen quality Semen doses are routinely sent to third party labs in the United States and Canada to verify the processing accuracy and quality of the semen that we distribute. Approximately 25 – 30 times per year 8 – 12 doses from varying pools are sent for detailed motility, morphology, survival and bacteria evaluation. The results from these labs are then compared to our own in-house results to monitor the calibration of our equipment and the accuracy of our lab technicians. Doing this 2 or 3 times per month enables TSG to continually keep its equipment calibrated and ensure that the accuracy of semen analysis and dilution is maintained.

Competency

Each lab technician at TSG evaluates an average of 12,000 to 15,000 semen samples per year. That is over 250 per week! They will also have their result compared with a third party lab close to 50 times annually. This constant, close monitoring of their efforts ensures a high

level of consistency and accuracy within our staff. TSG has, without a doubt, **the most experienced lab staff of any stud in Ontario!** They truly are professionals!

2018 by the Numbers

Production

- > 35,000 ejaculates collected
- > 800,000 semen doses produced
 - > 10,000 pools processed
 - > 17,000 orders filled

Evaluations

- > 35,000 ejaculates analyzed
- All pools analyzed 5 times
- > 75,000 semen evaluations

Quality Control Testing

- > 7,500 bleedings for PRRS
- > 7,000 semen samples stained
- > 4,500 semen samples plated for bacteria testing
- > 2,500 hours dedicated to QC testing

Third Party Validation

- CFIA licensed
- Annual AIM (Artificial Insemination Management International) audit
- Approximately 150 submissions to Animal Health Lab in Guelph for PRRS testing
- > 300 doses sent out for detailed motility, morphology, survival and bacteria testing

Achievements

- * CFIA export accredited
- * Excellent AIM audit score
- * 100% PRRS tests negative
- * 99.8% order accuracy

It all adds up to **quality** and **consistency** you can count on from a **professional team** at

Total Swine Genetics!

Customers' Results

Every year one of our genetic clients, Topigs Norsvin, holds an Awards Banquet to recognize excellence in their customers' operations. Producers sourcing semen from TSG did very well.

Small herds – under 500 sows

- 1st and 2nd for farrowing rate (93.1 and 91.4%)
- 1st and 2nd for pigs/sow/year (30.62 and 29.56)

Medium herds – 501 to 1200 sows

- 1st for farrowing rate (93.6)
- 1st for pigs/sow/year (32.01)

Large herds – 1201+

- 2nd for farrowing rate (89.8)
- 1st and 2nd for born alive/litter (13.92 and 13.11)
- 1st for pigs/sow/year (32.01)

These results were for a full 12 month period. Congratulations to all on a job well done!

These results are similar to those of other genetic clients at TSG. Several producers share their results with TSG on a regular basis. It is not uncommon to see annual results above 90% farrowing rate and total born numbers at or above 15 piglets per litter.

What is it that enables some herds to reach these production levels? Health is very important. Excellent bio-security is in place and understood by all involved. Maintaining a high health level of herd health is the starting point.

Attention to detail in the barn is evident. There is a culture of striving for excellence. Best management practices are understood and followed. Shortcuts are not a part of their routine. These operations work as a team, holding each other accountable and encouraging one another to strive for more! They are always looking to implement new ideas to help them achieve the next level of production within their herd.

If you would like to learn more about what it takes to achieve success like theirs, give us a call. Our breeding consultants have had the opportunity to learn from these leading producers, and from some of the foremost swine reproduction experts in Canada, the United States and abroad. We would be more than happy to come and visit with you and your team and share what we can with you. Give us a call today and talk with Stu or Arnold!